



GLOBAL HEALTH SUPPLY CHAIN PROGRAM – TECHNICAL ASSISTANCE SOUTH AFRICA

Year 5 Quarter 3, Quarterly Report

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AMD	Affordable Medicines Directorate
ARC	Africa Resource Centre
ARV	Antiretroviral
CCMDD	Centralised Chronic Medicine Dispensing and Distribution
CHCs	Community health centers
DTG	Dolutegravir
EDP	Essential Drugs Program
EML	Essential Medicines List
ERC	Expert Review Committee
FY	Financial Year
GHSC-TA	Global Health Supply Chain Program – Technical Assistance
GoSA	Government of South Africa
HIV	Human Immunodeficiency Virus
HTA	Health Technology Assessment
ICDF	In-Contract Demand Forecast
IMAT	Improved Medicine Availability Team
IT	Information Technology
KPI	Key Performance Indicator
MAC	Ministerial Advisory Committee
MHPL	Master Health Product List
MMD	Multi-Month Dispensing
MMDS	Medicine Master Data System
NDoH	National Department of Health
NEMLC	National Essential Medicines List Committee
NHI	National Health Insurance
NSC	National Surveillance Center
PDoh	Provincial departments of health
PHC	Primary Health Care
PoC	Proof of Concept
PPE	Personal Protective Equipment
PrEP	Pre-exposure Prophylaxis
PS	Pharmaceutical Services
PST	Provincial Support Team
PTC	Pharmaceutical and Therapeutics Committee
RMU	Rational Medicine Use
SIMA	Strategy to Improve Medicine Availability
SITA	State Information Technology Agency
SRCC	Special Requirements and Conditions of Contract
STGs	Standard Treatment Guidelines
SVS	Stock Visibility System
TB	Tuberculosis
TEE	Tenofovir/Emtricitabine/Efavirenz
TLD	Tenofovir/Lamivudine/Dolutegravir
TLART	Third-Line Antiretroviral Treatment
TOR	Terms of Reference
TROA	Total Remaining on Antiretroviral Therapy
USAID	United States Agency for International Development

I. EXECUTIVE SUMMARY

INTRODUCTION

South Africa remains at the center of the global AIDS epidemic and has one of the highest burdens of tuberculosis (TB) in the world. An efficient and effective health supply chain that improves medicine availability is critical to addressing that disease burden. With this in mind, the United States Agency for International Development (USAID) launched the Global Health Supply Chain Program – Technical Assistance (GHSC-TA) in South Africa in September 2016. The program provides technical assistance (TA) to the South African government to strengthen public health systems and supply chains to advance an AIDS-free generation and contribute to the achievement of universal health coverage.

GHSC-TA provides TA directly to the Affordable Medicines Directorate (AMD) of the National Department of Health (NDoH), as well as to the pharmaceutical services (PS) directorates of the provincial departments of health (PDoH). The overall aim of the program is to assist the government in improving access to, and availability of, the medicines and related commodities needed to prevent and treat HIV/AIDS, TB, and associated conditions and disorders.

PURPOSE OF THIS DOCUMENT

This quarterly report details GHSC-TA program activities and achievements by objective and, where possible, provides results for each of the six objectives against key performance indicators (KPIs).

YEAR 5 QUARTER 3 ACTIVITIES AND ACHIEVEMENTS

Year 5 Quarter 3 (Q3) activities continued to focus on strengthening the health supply chain at the national and provincial levels. At the provincial level, GHSC-TA continued to provide support through the provincial support team (PST), which facilitates the implementation and institutionalization of supply chain reforms in the provinces. In addition, the team continued with efforts to support the Government of South Africa (GoSA) in the national response to the Covid-19 pandemic. Program activities are segmented into nine main projects, representing capacity-building interventions across multiple functional areas. These activities align with the six program objectives. A high-level overview of activities and accomplishments for each objective follows.

OBJECTIVE 1: IMPROVE SELECTION AND USE OF MEDICINES

During the period under review, GHSC-TA continued to work with the Essential Drugs Program (EDP) of the AMD to strengthen the selection and use of medicines. Program support focused on convening and strengthening the current medicine selection structures including the National Essential Medicines List Committee (NEMLC) and its subcommittees, developing capabilities to conduct Health Technology Assessments (HTA), and strengthening rational medicine use (RMU). Specific achievements included input into the 2021 Global Survey on HTA and draft HTA Methods Guide, optimizing governance tools and processes of NEMLC and its ERCs, convening of the Ministerial Advisory Committee (MAC) on Antimicrobial Resistance and its sub-committees, communication of NEMLC decisions through the NEMLC Bulletin, assistance with processing of Third-Line Antiretroviral Treatment (TLART) applications, and submissions to the Director-General to communicate interventions promoting the rational selection and use of medicine.

OBJECTIVE 2: SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN

During this quarter, GHSC-TA supported the NDoH with establishing the Centralised Demand Planning team based at NDoH. GHSC-TA also continued to support the first two members of the team – one demand planner who will support KwaZulu-Natal and one who will support North West. The GHSC-TA team also provided ongoing support to update the Covid-19 forecasts and adjusted the forecast prepared in the previous quarter, as more information became available and the third wave of Covid-19 infections hit the country.

During this period, the GHSC-TA team initiated provincial Demand Planning Status Review meetings to discuss progress, share the standard process requirements, roles, and responsibilities, and get commitment from provinces regarding their support of the demand planning process. This approach has been an effective change management exercise and is expected to result in further improvements in demand planning in the upcoming quarters.

GHSC-TA have migrated the manual Excel-based budget planning tool onto the National Surveillance Center (NSC) platform. This enables standard use of the reporting tool and increased visibility, sharing capability, and use. Further analysis was initiated as a first step towards standardizing the Standard Charter of Accounts (SCOA) codes used across provinces for all medicines.

OBJECTIVE 3: STRENGTHEN GOVERNANCE

During this period, GHSC-TA continued to support AMD and the provinces to strengthen governance. The team supported the Improved Medicine Availability Team (IMAT) - Exploded governance structure in drafting the policy principles for centralized allocation of stock and supplier due diligence. GHSC-TA continued to facilitate discussions with AMD on management of supplier non-compliance with the Special Requirements and Conditions of Contract (SRCC). Additionally, the team has successfully transitioned operational contract management support to the AMD contract managers. GHSC-TA continued to support AMD and provincial PS with the response to the Covid-19 pandemic.

OBJECTIVE 4: IMPROVE WORKFORCE MANAGEMENT

During the period under review, GHSC-TA developed the transition plan for resources supporting AMD as contract managers. The plan included a proposal on re-allocation of supplier portfolios to current AMD contract managers. The handover pack was presented to AMD and accepted.

GHSC-TA provided support with the implementation of tools, training, and a mentorship program to support clinicians with the TLD transition. In addition, GHSC-TA also trained and mentored the Provincial TLD champions to take over activities in preparation for close-out of the TLD transition project.

OBJECTIVE 5: STRENGTHEN INFORMATION SYSTEMS AND INFORMATION MANAGEMENT

GHSC-TA advised on further development of the Medicine Master Data System (MMDS). The team supported substantial improvements to the system relating to contracting data and user management, which were completed during the quarter and are now live. Implementation of the MMDS continued in the Free State with the roll out nearing completion in Fezile Dabi district.

During the quarter, GHSC-TA completed the work of relocating several staging data servers that support the NSC and RxSolution manual reporting to an upgraded hosting platform. The program also monitored the new platform to optimize the configuration and database environment, and worked with AMD to assist provincial health information technology (IT) departments to direct the remaining provincial servers to the new central server location. GHSC-TA also optimized the backup process of the database used for RxSolution sites that still report manually to the NSC. Regarding dashboard development, GHSC-TA completed the development of the reporting compliance trend views and published these to the NSC in June 2021.

Although system enhancements to the Stock Visibility System (SVS) supported by GHSC-TA in Q2, were largely ready for the next stage of implementation (proof of concept (PoC) testing and expanded deployment), these activities were mostly placed on hold due to prioritization of the Covid-19 instance of SVS used to monitor the availability of Covid-19 vaccines and the required ancillary items.

OBJECTIVE 6: IMPROVE FINANCIAL MANAGEMENT

Due to the close linkages with Objective 2, work in this area has been collapsed into the Demand Planning and Financial Management stream.

2. INTRODUCTION

South Africa remains at the center of the worldwide AIDS epidemic, with an estimated 7.9 million¹ people living with the disease. In addition, the country has the third-highest burden of TB internationally.² An efficient and effective health supply chain that improves medicine availability is critical to addressing that disease burden. With this in mind, USAID launched GHSC-TA in South Africa in September 2016. The program provides TA to the South African government to strengthen public health systems and supply chains to advance an AIDS-free generation and contribute to the achievement of universal health coverage.

The availability of medicine has a direct impact on improving health outcomes for the South African people. When health establishments do not have adequate medicine stock-on-hand to meet patient needs, not only is the health of patients jeopardized, but patients must return to the health establishment, at considerable personal expense and inconvenience, to collect their medicines. Addressing constraints and improving medicine availability is a core objective of South Africa's NDoH. GHSC-TA works with the NDoH to design and implement innovative solutions to transform the South African public health supply chain. Simultaneously, the program is working with PDoHs to increase medicine availability countrywide. By improving health supply chain visibility, the program also supports public health establishments' efforts to anticipate patients' needs more accurately and position enough stocks of medicines where and when they are needed.

GHSC-TA provides TA directly to the AMD of the NDoH, as well as to the PS directorates of the provinces. The program's overall aim is to assist the government in improving access to, and availability of, the medicines and related commodities needed to prevent and treat HIV/AIDS, TB, and associated conditions and disorders. In addition, since the outbreak of Covid-19 in South Africa in March 2020, GHSC-TA has been supporting the GoSA in the national Covid-19 response, including roll out of the vaccination program.

The GHSC-TA implementing team is led by Guidehouse LLP and includes PricewaterhouseCoopers South Africa, Imperial LLP, 4Africa Abaluleki (Pty) Ltd, and Banyan Global.

PROGRAM OBJECTIVES

To this end, the program is tasked with the following six objectives:

- Objective 1: Improve Selection and Use of Medicines
- Objective 2: Support Optimization of the Supply Chain
- Objective 3: Strengthen Governance
- Objective 4: Improve Workforce Management
- Objective 5: Strengthen Information Systems and Information Management
- Objective 6: Improve Financial Management

¹ South African National AIDS Council, Annual Performance Plan 2019-2020. August 2019. Available at <https://sanac.org.za/wp-content/uploads/2019/08/Annual-Performance-Plan-201920.pdf>.

² USAID Where We Work, South Africa, Global Health. October 19, 2020. Available at <https://www.usaid.gov/south-africa/global-health>.

GHSC-TA activities in support of the six objectives outlined above are segmented into nine main activities, representing capacity-building interventions across multiple functional areas that are shown in Table I.

Table I: Activities and Descriptions

Activity	Description
1. Medicine Master Data	Assist AMD in designing (in collaboration with the contracted service provider responsible for development) and implementing the MMDS. This system incorporates the Master Health Product List (MHPL), location hierarchy, and formulary management tool.
2. National Surveillance Center	Support the operationalization and optimization of the NSC at a national and provincial level to improve visibility into the performance of the supply chain and strengthen analytics to inform decision making.
3. Supply Chain Systems (including SVS)	Design, implement, transition, and promote the provincial, district, and health establishment utilization of supply chain systems and applications. Advise on the design and implementation of enhancements to the SVS.
4. Demand and Budgeting	Develop and implement appropriate processes, tools, and human resources capabilities at the national and provincial levels to implement demand planning. Strengthen both national and provincial structures and processes for budgeting and financial reporting for medicines.
5. Strengthening Medicine Selection and Use	Develop and implement policies, guidelines, tools, and approaches to support evidence-based selection and RMU.
6. Governance and Legislation	Support the institutionalization of good governance with the implementation or strengthening of relevant structures within the AMD and PDoHs (supported by the necessary TORs), and develop and/or review legislation, policies, guidelines, processes, and procedures. Advise AMD on contracting with medicine suppliers and associated post-award contract management.
7. Tenofovir / lamivudine / dolutegravir (TLD) Transition	Provide supply chain-related support for the transition of eligible patients living with HIV to tenofovir / lamivudine / dolutegravir (TLD) or dolutegravir (DTC) containing products, as appropriate.
8. Replenishment Planning	Drive activities aimed at leveraging medicine supply management best practices to ensure that essential medicines are available at health establishments through the standardization of medicine master data, strengthening of formulary management processes, the use of minimum/maximum (min-max) stock levels, and the introduction of an advised-pull approach to replenishment planning.
9. Provincial Support	Support supply chain optimization at the provincial level through implementing and institutionalizing supply chain reforms.

GHSC-TA assists the AMD with implementing the Strategy for Improved Medicine Availability (SIMA) (2016—2021), which encompasses five core functions: selection of medicine and technologies, contracting of suppliers, management of the supply chain, contract management per the applicable requirements and conditions of the contract, and promotion of RMU. These functions are supported by five enabling functions: governance, workforce management, information systems and management, financial management, and education and research. Interventions are aimed at strengthening both core and enabling functions with a view to continuous improvement.

This work directly supports the USAID/South Africa Country Development Cooperation Strategy results framework by supporting Development Objective I - Health outcomes for South Africans improved, as well as the NDoH SIMA and the NDoH annual performance plans.

YEAR 5 QUARTER 3 OVERVIEW

GHSC-TA activities in Q3 of Year 5 continued to focus on strengthening the health supply chain from both a national and a provincial perspective. GHSC-TA also continued to support the GoSA in managing the outbreak of Covid-19 with respect to the medicines and personal protective equipment (PPE) needed by staff and patients, and the roll out of the Covid-19 vaccine.

The response to Covid-19 has required intensification of the supply chain activities of GHSC-TA. It has allowed the program, AMD, and the provinces to test the robustness of processes and tools previously developed. Lessons learned from the pandemic have provided opportunities to further strengthen processes and, in particular, enhance and expand the NSC and institutionalize its use.

Despite Covid-19, GHSC-TA has managed to maintain most planned activities with minimal interruptions or delays. In the case of some activities, it has been necessary to adjust timelines and reallocate resources. Overall, the Covid-19 pandemic has provided an opportunity to showcase the program's successes while providing valuable inputs to enrich processes and strengthen the medicine supply chain as a whole. The roll-out of the Covid-19 vaccine has created an opportunity for the GHSC-TA team to work closely with NDoH and the provinces in the planning of the national roll-out in both the public and the private sector.

YEAR 5 QUARTER 3 ACHIEVEMENTS

Table 2 provides a high-level overview of Year 5 Quarter 3 projects and their key achievements.

Table 2: Key Year 5 Quarter 3 Achievements

OBJECTIVE 1: IMPROVE SELECTION AND USE OF MEDICINES	
1.	Assisted with development and implementation of governance tools and processes of NEMLC and its ERCs, as well as the MAC on Antimicrobial Resistance and its sub-committees
2.	Provided ongoing secretariat support to the MAC on Covid-19
OBJECTIVE 2: SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN	
3.	Initiated demand planning process in Free State
4.	Completed the first two Demand Planning Status Review meetings with Eastern Cape and KwaZulu-Natal and developed a Terms of Reference (TOR) document for the Demand Review Meetings

-
5. Completed min-max stock level upload onto the SVS platform in Fezile Dabi district in Free State. Provided input to inform the development of new NSC reports utilizing the optimized min-max parameters
-
6. Completed the PoC implementation of the advised pull (formerly informed push) in Free State and began engagements with provincial counterparts in both the North West and Free State provinces to begin phase I deployment
-

OBJECTIVE 3: STRENGTHEN GOVERNANCE

7. Developed policy principles for centralized allocation of medicines in short supply to provinces
-
8. Revised the criteria for inclusion of medicines on tender
-
9. Revised the policy principles for management of defaulting suppliers and supplier due diligence
-

OBJECTIVE 4: IMPROVE WORKFORCE MANAGEMENT

10. Continued to assist AMD with on-boarding of the newly appointed demand planners
-
11. Developed and implemented the contract management transition pack
-

OBJECTIVE 5: STRENGTHEN IT SYSTEMS AND INFORMATION MANAGEMENT

12. Supported further development of the online MMDS with development of functionality to compare the Ideal Clinic Tracer List with formularies managed on the system
-
13. Supported the roll-out the MMDS formulary module in Thabo Mofutsanyana district in Free State
-
14. Supported the Covid-19 response by providing weekly update reports to AMD and the provinces about reporting compliance and medicine availability
-
15. Observed an increase in sites reporting PPE items to the NSC from 3,435 in March 2021 to 3,476 in June 2021
-
16. Developed and published the reporting compliance trend views and the minimum basket filter for the integrated view reporting compliance dashboard view, as well as additional Covid-19 MAC views to the Covid-19 dashboard
-
17. Provided TA towards development of the SVS Phase 2.0 functionality in Free State province as part of the advised pull implementation. This work included supporting semi-automated information exchange between the SVS and the RDM system
-

OBJECTIVE 6: IMPROVE FINANCIAL MANAGEMENT

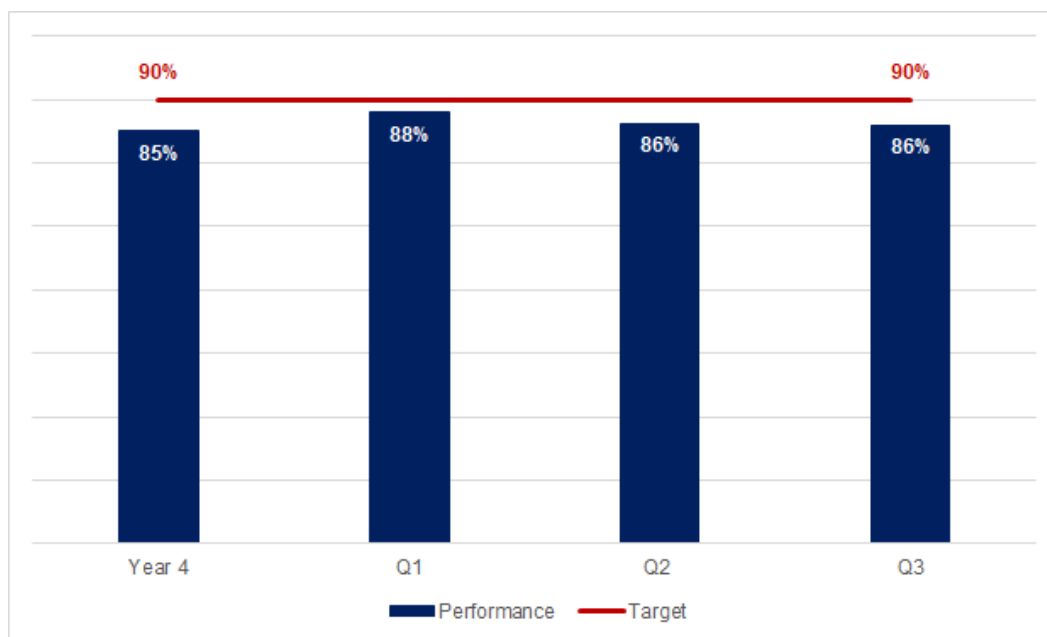
18. Transitioned the Budget dashboard from the Excel model onto the NSC platform
-
19. Completed the initial review of the SCOA code alignment across provinces
-

PROGRESS TOWARDS GOAL – INCREASED MEDICINE AVAILABILITY

This indicator measures the availability of medicine in all health establishments (primary health care clinics, community health centers (CHCs), hospitals, dispensing service providers of the Centralised Chronic Medicine Dispensing and Distribution program (CCMDD) and private sector health establishments providing health care services on behalf of the public sector). During the quarter under

review, overall performance against this indicator remained unchanged at 86 percent, and remains under the target of 90 percent (shown in Figure 1). Medicine availability at suppliers has been consistently below the 90 percent target and investigations through the IMAT process have shown that API shortages, production-related challenges, and delays in shipping due to the Covid-19 pandemic have been the biggest constraints faced by suppliers. These factors explain, in part, the fluctuation in medicine availability between 85 and 88 percent over the last six months across all tiers of the supply chain. Given the extent of these challenges it might be difficult to achieve availability above the targeted 90 percent nationally.

Figure 1: Overall Percentage Medicine Availability in Year 5



Other contributing factors which continue to impact medicine availability include accounts being placed on hold due to non-payment, demanders not placing orders in a timely manner or at all, and reduced staff capacity within depots due to Covid-19 infections or social distancing measures. Additionally, the lack of customized formularies, particularly at warehouses and hospitals contributes to a skewed availability picture. GHSC-TA continues to provide support aimed at addressing these issues, however, the success of these efforts will depend on the availability of resources within provinces to action the remedial interventions.



3. IMPROVE SELECTION AND USE OF MEDICINES

South Africa's unique disease burden shapes its national health priorities, health system design, and health funding structures. As with most health care systems globally, the country has limited funds available for servicing the population's health care needs, including medicines and medical-related health technologies. Limited funds must be allocated according to an evidence-based approach to provide the best quality health care to all South Africans.

In addition, South Africa's public health care system must be able to match the medicine available to meet patients' needs. Through the relevant governance bodies such as the NEMLC, the AMD is responsible for supporting the selection and use of medicines for patients nationally and making sure these medicines are accessible and available when and where they are required.

ACTIVITIES AND ACHIEVEMENTS

STRENGTHEN MEDICINE SELECTION AND USE

GHSC-TA is working with the AMD to strengthen medicine selection and RMU to provide an accountable mechanism to support decision making related to the funding, cost, and use of medicines

and health technologies in South Africa. During Year 5 Quarter 3, GHSC-TA continued assisting the NDoH to strengthen the selection and use of medicines to support the attainment of universal health coverage as the country moves towards National Health Insurance (NHI).

Health Technology Assessments. The Essential Medicines List (EML) and Standard Treatment Guidelines (STGs) are developed and maintained by the ministerially appointed NEMLC, supported by the EDP. Health technology assessment (HTA) is defined by the World Health Organization as “the systematic evaluation of properties, effects, and/or impacts of health technology. It is a multidisciplinary process to evaluate the social, economic, organizational and ethical issues of a health intervention or health technology.”

During Q3, GHSC-TA provided input into an online submission of the 2021 Global Survey on HTA and drafted a submission and letter to inform the Director-General of Health of the survey. The program also drafted a submission for the Director-General of Health to approve the publication of the public stakeholder consultation notice for the HTA Methods Guide, with the purpose of gathering wide stakeholder input to ensure efficient implementation and quality. In addition, GHSC-TA drafted submissions to the Director-General to approve amendments to the Therapeutic Interchange Policy, as well as in response to stakeholder queries relating to treatment for COVID-19.

Support to NEMLC and the Expert Review Committees (ERC). GHSC-TA drafted the quarterly NEMLC Bulletin to communicate decisions made at its meeting on 25 March. The team also supported the update of the NEMLC TOR to include criteria for selection of applicants onto the Committee, and presented them for ratification to NEMLC at its meeting on 24 June. The program also updated the declaration of interest forms related to the AMD Conflict of Interest Policy following challenges experienced on implementation.

GHSC-TA assisted with drafting submissions and letters for the request to the Minister of Health to approve the extension of the term of office of the Paediatric Hospital Level ERC until 30 June 2022. The purpose of the extension was to allow the recruitment of stakeholders onto the new Committee while avoiding disruption to the maintenance of the STGs and EML. The program also provided assistance with consolidation of applications to the Tertiary and Quaternary ERC as well as the NEMLC. Following review of candidates by AMD, GHSC-TA drafted submissions and letters to request the Minister of Health to appoint the Tertiary and Quaternary ERC.

RMU Support. The practice of RMU helps to make sure that patients receive medicines appropriate to their clinical needs, in doses that meet their requirements, for an adequate period, and at the lowest cost to them and their communities. GHSC-TA had provided assistance with convening and supporting the MAC-AMR meeting held on 31 March, and, during the quarter, developed a media release to communicate the establishment of the new Committee. The program also assisted with amending the TOR for this committee. GHSC-TA provided assistance with convening the meeting of the MAC-AMR Antimicrobial Stewardship Technical Working Group on 14 June. GHSC-TA also provided technical support on TLART application processing to enable the rational use of these medicines. GHSC-TA also drafted circulars to communicate the re-platforming of the EML Clinical Guideline on the iOS platform, as well as where to find the new version of the Primary Healthcare STGs, that have not yet been updated onto the EML Clinical Guide.

OUTCOME LEVEL RESULTS

The program’s theory of change hypothesizes that by supporting AMD efforts to perform HTAs and leverage their outputs, the GoSA will demonstrate improvements in the selection and use of

medicines. To test these assumptions, GHSC-TA monitors two KPIs. This section provides an overview of the progress and results observed against these KPIs through the end of Year 5 Quarter 3.

KPI 2. NUMBER OF MEDICINE SELECTION DECISIONS MADE UTILIZING HEALTH TECHNOLOGY ASSESSMENT PROCESSES

This KPI measures the extent to which HTA processes inform decision making by the NEMLC and other relevant committees. Improved decision making is key to determining the medicines and other health technologies funded under NHI. There was no change in this indicator during the period under review, with the life of program performance remaining at four.

During Year 4, AMD placed HTA strengthening activities on hold, pending finalization of legislation needed to implement NHI. In Year 5, GHSC-TA has supported AMD with activities in preparation for implementation of HTA including providing input on the HTA Methods Guide, as described above.

KPI 3. PERCENTAGE OF ASSISTED PHARMACEUTICAL AND THERAPEUTICS COMMITTEES (PTCS) WITH IMPROVED OPERATIONAL CAPACITY

This indicator measures the total number of assisted PTCs, which demonstrate improved levels of operational capacity as compared to the total number of assisted PTCs. This is an endline KPI, as a number of interventions must be completed before the final measurement is done. Additionally, activities that contribute to this KPI were deprioritized by the NDoH as a result of the Covid-19 pandemic. The program has, however, commenced providing assistance on the development and management of formularies in the Northern Cape, Free State, and KwaZulu-Natal.



4. SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN

The current supply chain processes within the NDoH form a foundation for enabling medicine availability across the different health establishments in the country. More than 80 percent of the South African population is dependent on public sector health care provision, making the effective supply of medicine a life-saving requirement for many. Medicine availability is also the cornerstone for achieving 95-95-95 in the fight against HIV. Optimizing the supply chain starts with creating visibility and then improving supply chain processes. This optimization will generate savings, ensure more effective execution of key processes, and ultimately ensure that medicine availability increases. GHSC-TA has been assisting the NDoH in optimizing the supply chain through several initiatives, including the establishment of medicine master data, management of formularies, creation of accurate demand forecasts, effective replenishment planning, and ensuring end-to-end visibility. Governance processes have also been put in place to make sure that the approaches become a way of life.

ACTIVITIES AND ACHIEVEMENTS

DEMAND PLANNING

GHSC-TA works with the NDoH to produce innovative processes, tools, and workforce training that result in more accurate demand forecasts. The forecasts are established through a centralized demand planning team based at NDoH. As part of the process, GHSC-TA also collaborates with Programmes and PDoHs to enrich the demand forecast and enable the best demand plans possible.

Tender Forecasting. During the quarter under review, GHSC-TA continued to support NDoH to utilize the provincial demand forecasts to calculate future projections for the next tender cycle. This alignment to a single number across operations has enabled alignment across the various functions. GHSC-TA supported the finalization of the antiretroviral (ARV) forecasted volumes, as well as the oncology volumes for the upcoming bid specification meetings which form part of the contracting cycle.

In-contract Demand Planning. GHSC-TA supported the CMU with the establishment of the in-contract demand forecast (ICDF), where actual and forecasted volumes are compared to the originally contracted volumes. The basis of the model is the original contracted volumes and the signed-off “one number” forecast from the Demand Planning team. GHSC-TA also facilitated simplification of the ICDF model to streamline the monthly publication process. The program initiated a handover of the process to NDoH to ensure continuity in the publishing the ICDF.

Design of Centralized Demand Planning Unit. GHSC-TA continued to assist with establishing a centralized demand planning unit at the national level. After successful recruitment, on-boarding, and training, the two new NDoH demand planners have taken accountability for the provincial forecast generation for KwaZulu-Natal and North West, with oversight and support from the GHSC-TA demand planners. Support has also been given for the future recruitment of the demand planning manager and additional demand planners.

Provincial Demand Planning. During the period under review, GHSC-TA continued to support provinces with establishing demand forecasts. The program has established the demand planning process in Eastern Cape, North West, KwaZulu-Natal, and Gauteng. In this quarter, the process was initiated in the Free State and preliminary work commenced in the Western Cape. During the period under review, the GHSC-TA demand planning team continued to work closely with the provincial demand planning coordinators and relevant program teams to establish the provincial forecasts. These are compiled for review in the demand review meetings, during which the provincial forecasts are agreed upon.

During this quarter the program completed further data standardization. Data is now extracted from Eastern Cape, Free State, Gauteng and Limpopo in a standard format. This quarter also saw the first Demand Planning Status Review sessions, held with Eastern Cape and KwaZulu-Natal, where the program reviewed the current progress of demand planning with the province. GHSC-TA detailed the fundamental process of demand planning, including roles and responsibilities, and the commitments required by the provinces. This has proved to be a valuable change management engagement and both provinces recommitted to ensuring the success of demand planning. The same content was also covered in the Free State kick-off meeting to great effect. As an outcome of the demand planning status meetings a TOR document was updated for the Demand Review Meetings. This document is still to be signed off by NDoH, but the draft version has been shared with the provinces to formalize their demand review meetings.

FINANCIAL MANAGEMENT

Budget Planning. GHSC-TA established the budget planning process to support the provinces in publishing the pharmaceutical budget for the next financial year (FY). Although the adjusted budget for FY 2021/2022 was accepted, the concept of ring-fencing of the pharmaceutical budgets is still to be approved by the National Health Council Technical Advisory Committee.

Budget Reporting and Monitoring. The GHSC-TA team have worked with the NDoH to establish a budget dashboard to track actual expenditure against budget and the forecasted medicine requirement against the remaining budget. This dashboard was initiated on Excel but was migrated to the NSC platform during the quarter under review for improved visualization and access by the provinces. The reporting will enable PS teams to have closer control over expenditure against budget, flag risks of over expenditure and identify opportunities to manage expenditure where budget has been exceeded. Data submissions are still in progress to identify gaps and formalize the data submission process.

Budget Task Team. GHSC-TA had previously worked with AMD to establish a pharmaceutical budget planning task team which includes the HOPS and their supporting teams, mainly Depot and Finance Managers. This forum presented an opportunity for the team to discuss a variety of topics, including revisiting the issue of ring fencing the medicine budget, a crucial step towards effective management of spending against the budget for medicine. As part of the resolutions of a meeting of the task team, a working group was established made up of representatives of KwaZulu-Natal, Gauteng, North West and the Northern Cape. The responsibility of the working group is to standardize the SCOA codes across provinces and map these codes to the budget forecast generated by the Demand Planning Team. Effectively these forecasts are generated at a product level, mapping these to SCOA codes aligns the forecasts to the reporting mechanism required by the National Treasury. The GHSC-TA team provided support in driving discussions and securing commitment from stakeholders.

TLD TRANSITION

In October 2017, the previous Minister of Health announced that DTG based ARV treatment would be introduced in South Africa. The South African Health Products Regulatory Authority (SAHPRA) approved products containing TLD in late 2018, with national contracts for these products awarded in February 2019. The outbreak of Covid-19 in South Africa in March 2020, however, impacted the TLD transition, with patients reducing medical visits to minimize exposure to the virus. The medicine supply chain also experienced challenges including shortages of ARVs caused by production-related issues and importation delays. The GoSA took proactive steps to mitigate the impact of Covid-19 on its HIV program and adopted numerous strategies to minimize clinical visits and promote adherence and retention in care, including multi-month dispensing (MMD) and delivery of patients' medicines to convenient pick-up points.

Over the past 20 months, GHSC-TA, in collaboration with Africa Resource Centre (ARC), worked closely with the PDoHs, the HIV Program, and other implementing partners to support the transition to TLD. By the end of Year 5, Q2, the provinces had transitioned 63 percent of the total remaining on antiretroviral therapy (TROA), as seen through the implied dispensing numbers. The TLD project team used the implied dispensing data in the absence of TIER.Net data (patient data). In March 2021, the TLD Project team received the TIER.Net report. A comparison of the data found that the number of patients on TLD as per Tier.Net was significantly lower than the number based on implied dispensing data. Various reporting-related challenges were identified and are being addressed.

Communication. GHSC-TA assisted with a memo sent by AMD to the HIV Program requesting provinces to take active steps to achieve 80:20 TLD:TEE by November 2021 and set a clear direction on the use of DTG50 vs LPV/r 200/50. GHSC-TA also supported the development of a further memo sent to the provincial Head of Departments to request the HAST program and PS units to implement the updated recommendations on the management of antiretrovirals. Subsequently, a joint memo between AMD and the HIV Program was drafted and sent to stakeholders regarding updates on the use of TLD in pregnancy. During Q3, GHSC-TA also supported the development of communication plans and facilitated use of materials and platforms ranging from flyers, newspapers, television, and social media for effective engagement with all stakeholders and beneficiaries.

Training. GHSC-TA, in collaboration with Clinton Health Access Initiative (CHAI), assisted the HIV Program in updating the first- and second-line training material and the commencement of refresher training on 25 June 2021. In addition, the program facilitated updating of the TLD poster and algorithm and shared them with the provincial stakeholders to use as a quick reference guide when switching patients to DTG containing regimens.

TLD Dashboard. During Q3, information from the TLD dashboard developed in 2019, continued to be used on a weekly basis by the TLD project team to do national stock allocations on TLD and TEE. The TLD dashboard not only tracked the transition but enabled visibility of the availability of TB medicines and contraceptives, which are crucial in ART treatment regimens. The dashboard enabled stakeholders to manage stock levels down to district and facility level and supported the movement of stock between facilities where needed. Where national stock challenges were identified these were referred to, and addressed by, IMAT.

Demand Model. Through the national demand model, the provincial forecasts are updated monthly and used to inform the transition's pace provincially and assist the TLD project team in monitoring progress nationally. The updated forecast data informs the national and provincial supply plan to facilitate the availability of TLD, TEE, and other items related to the transition. During this quarter, GHSC-TA continued to review and update the provincial demand forecasts taking into account the current TROA on TEE and TLD, and MMD of the 90-day pack. The updated provincial forecast will determine the balance of eligible patients to be switched to TLD as well as phasing over the next nine months. This input is used by ARC to develop the supply plan which is shared with suppliers to secure the volumes required. GHSC-TA, in collaboration with ARC, worked closely with suppliers and provinces to avoid stock-outs of TEE and TLD.

Ongoing Collaboration. During the quarter under review, GHSC-TA continued to hold weekly sales and operations meetings with Provincial PS and the Strategic Health Program. In addition, GHSC-TA provided ongoing support to the provincial depots to improve the availability of TLD and TEE and avoid potential stock-outs. There are continued engagements with the CMU team at AMD to discuss supply challenges on selected contraceptives, TB medicines, and pre-exposure prophylaxis (PrEP). GHSC-TA also assisted the HIV Program and support partners to secure PrEP for the national roll-out.

Preparing for National Scale Up of Second-Line Switching. In preparation for the national scale up to transition all eligible second line patients, the program developed a demand forecast to assist the provinces with switching. GHSC-TA assisted the HIV Program with updating the TLD training module to include second line switching and viral load management. In addition, GHSC-TA supported development of a new algorithm to assist clinicians when switching patients from the lopinavir/ritonavir combination to DTG because of the stock shortages experienced from June 2020.

A quick reference guide was also developed. The refresher training started on June 25, 2021, and all seven modules are now available on the Knowledge Hub.

Additional Interventions. GHSC-TA also provided ongoing support to:

- Provincial TLD steering committee meetings with support shared between GHSC-TA and ARC;
- The HIV Program at national and provincial levels with feedback provided in the weekly Phuthuma meetings;
- Preparations with planning and implementation of MMD on a national basis.

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that by supporting activities to improve the security of medicine and strengthen demand planning and inventory management, and working with the AMD to improve visibility and analytics to strengthen planning processes, the GoSA will demonstrate improvements in the level of optimization of the supply chain. In efforts to test this hypothesis, GHSC-TA monitors nine KPIs. This section provides an overview of the progress and results observed against these KPIs through the end of Year 5 Q3.

KPI 4. PERCENTAGE OF ANTIRETROVIRAL UNITS DELIVERED BY SUPPLIERS WITHIN CONTRACTUAL LEAD-TIME (SUPPLIER PERFORMANCE RELIABILITY – ON TIME)

This indicator measures supplier adherence to fulfilling orders for antiretroviral units received from demanders within the contractually agreed time. At the end of Q3, 74 percent of ARVs were delivered by suppliers within the contractual lead time of 14 days. The performance demonstrated a significant increase from the 58 percent reported at the end of Q2, although still below the target of 90 percent, as shown in Figure 2. Some of the challenges experienced in Q2 were resolved, especially for TLD and TEE which had significant supply constraints in the past quarters. These challenges included API shortages and contracted suppliers not being able to supply the committed contractual volumes. In the latter instance, the contract was cancelled and volumes re-negotiated with other suppliers. Figure 3 provides a disaggregation by province.

Figure 2: Percentage of Anti-retroviral Units Delivered by Suppliers within Contractual Lead-time (Supplier Performance Reliability - On Time) in Year 5

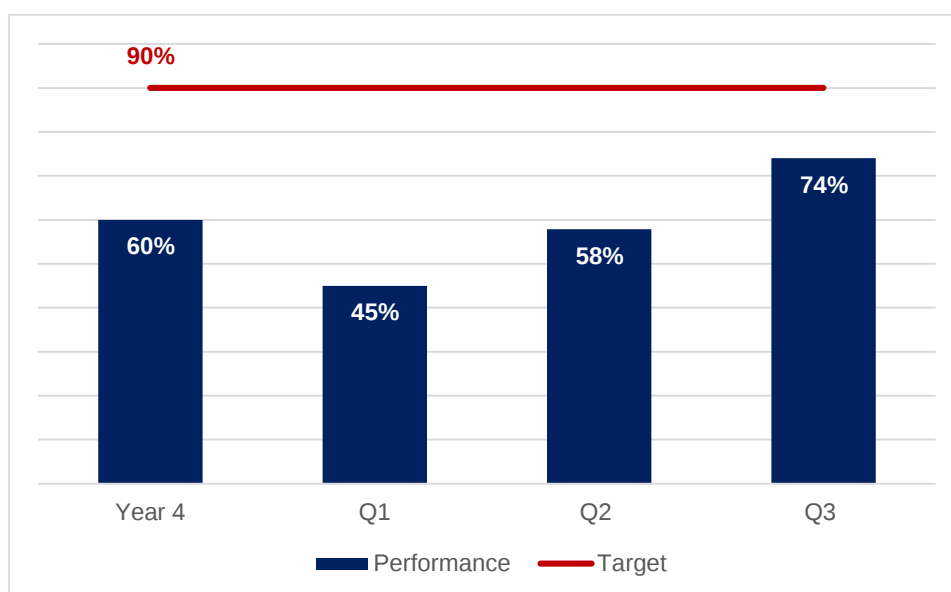
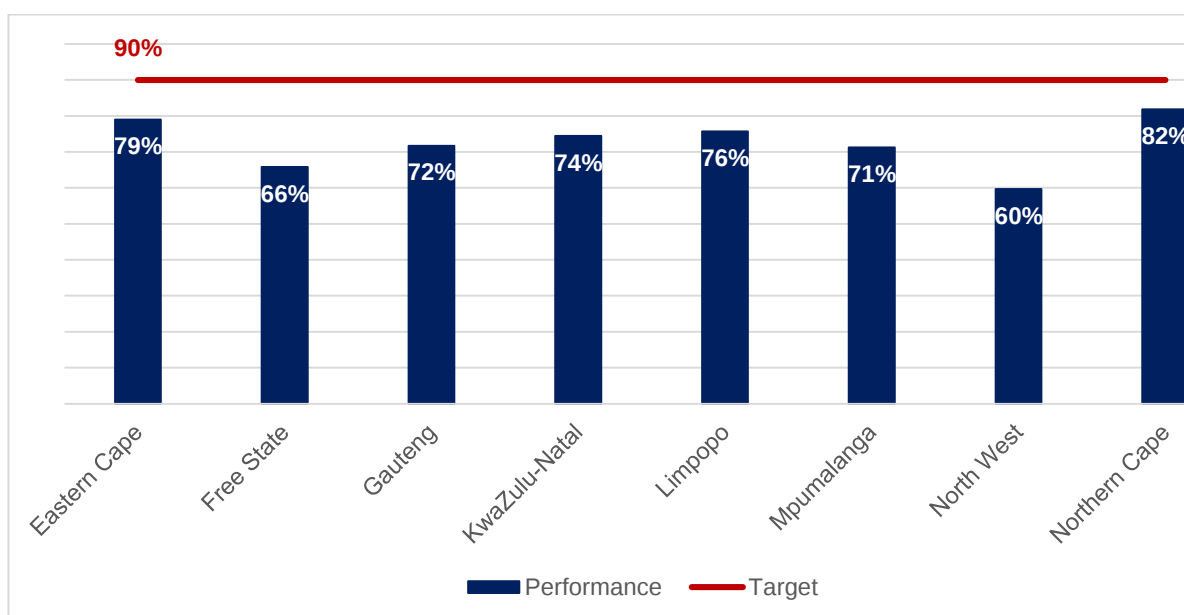


Figure 3: Supplier Performance Reliability - On Time - Disaggregation by Province in Q3



KPI 5. PERCENTAGE OF MASTER HEALTH PRODUCT LIST ITEMS ON TRANSVERSAL CONTRACTS (EXCLUDING ANTIRETROVIRAL) UNITS DELIVERED BY SUPPLIERS WITHIN CONTRACTUAL LEAD-TIME (SUPPLIER PERFORMANCE RELIABILITY – ON TIME)

This indicator measures supplier adherence to fulfilling orders for MHPL items on national transversal contracts (excluding antiretroviral units), received from demanders within the contractually agreed time. In Q3, 75 percent of MHPL items (excluding ARVs) were delivered by suppliers within contractual lead-time. Although performance increased by seven percent compared to the previous

quarter, it is still below the target of 90 percent, as shown in Figure 4. The primary challenge continued to be supply constraints (such as API shortages, and inability of suppliers to meet the adjusted demand due to Covid-19). To address this challenge, GHSC-TA continued to support AMD in identifying interventions to resolve medicine supply challenges, including developing the principles for central allocation of products with supply constraints, so that provinces receive an equitable share of available stock. Figure 5 presents the disaggregation by province.

Figure 4: Percentage of MHPL Items on Transversal Contracts Excluding Antiretroviral Units Delivered by Suppliers within Contractual Lead-Time (Supplier Performance Reliability - On Time) in Year 5

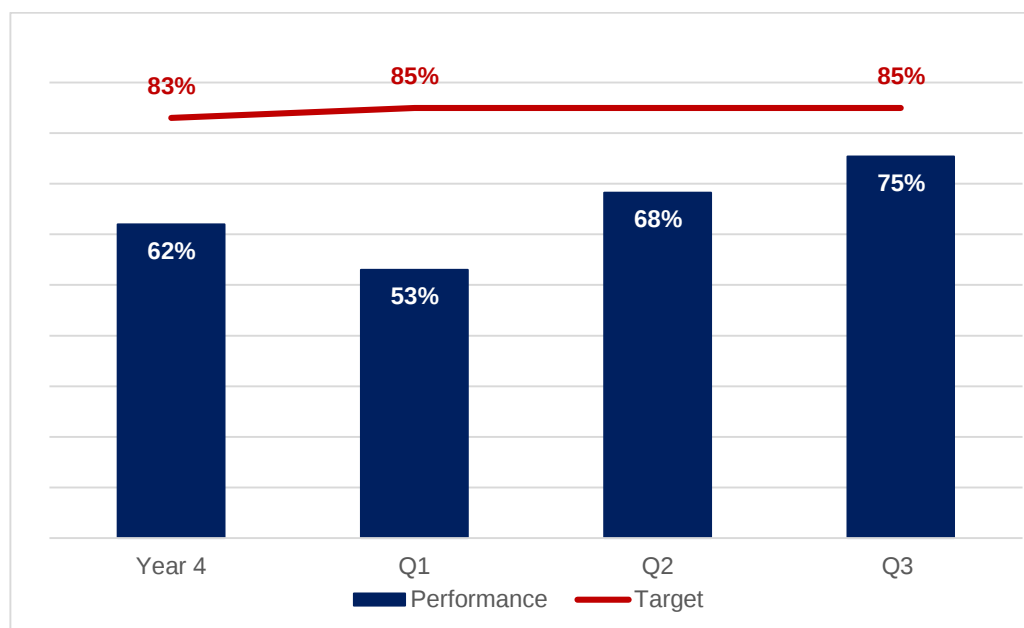
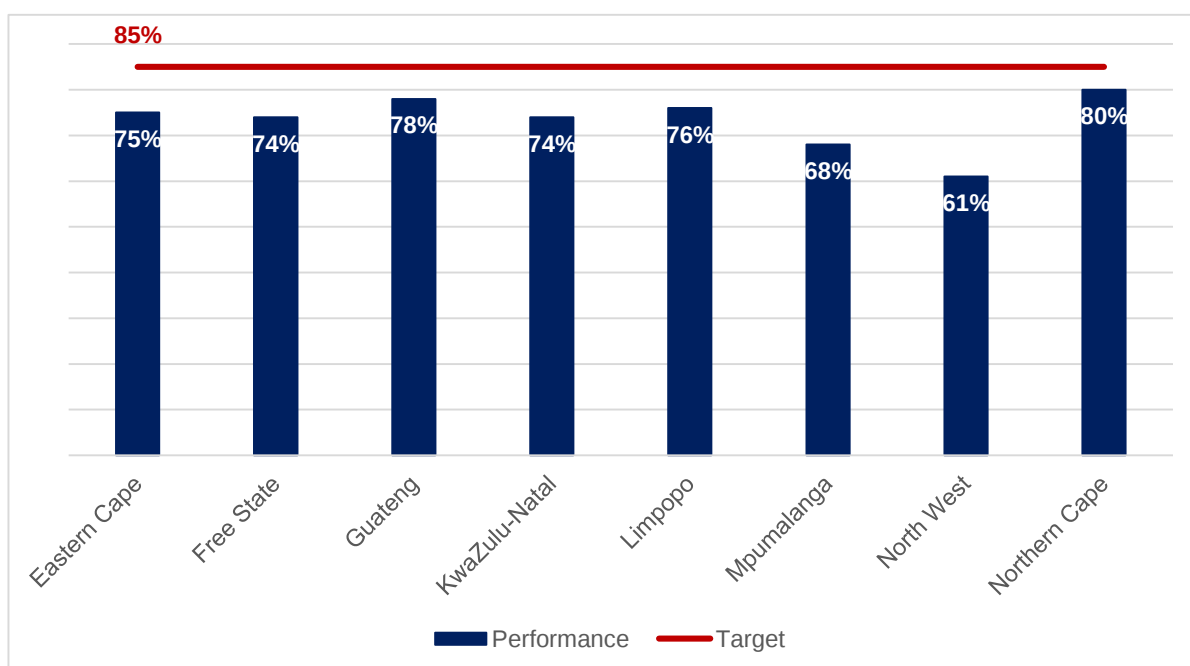


Figure 5: Disaggregation by Province in Q3



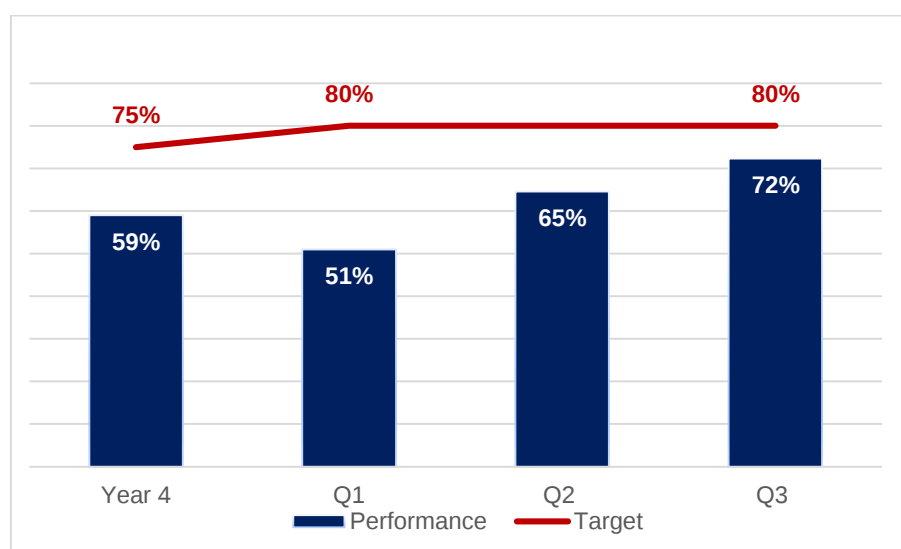
KPI 6. SUPPLIER PERFORMANCE RELIABILITY – PERFECT ORDER FULFILLMENT FOR ORDERS PLACED ON SUPPLIERS (ON-TIME AND IN-FULL)

This indicator measures supplier adherence to fulfilling orders from demanders in full and drives supply chain reliability and responsiveness. It applies only to items for which a transversal contract has been

awarded and does not include items procured on quotation and/or using Section 21 of the Medicines and Related Substances Act 101 of 1965.

At the end of Q3, supplier performance reliability was reported at 72 percent, which demonstrates a seven percent increase from the Q2 performance of 65 percent. Performance remained below the target of 80 percent, as shown in Figure 6. Due to supply constraints and high demand (higher than contractual volumes), suppliers were not able to supply orders in full. GHSC-TA is working with AMD to formalize the in-contract demand planning so that AMD can engage suppliers to increase production as needed.

Figure 6: Supplier Performance Reliability--Perfect Order Fulfilment for Orders Placed on Suppliers (On-Time and In-Full)



KPI 7. PERCENTAGE OF MASTER HEALTH PRODUCT LIST ITEMS ON TRANSVERSAL CONTRACTS DELIVERED VIA DIRECT DELIVERY TO THE HOSPITALS DESIGNATED BY THE PROVINCE TO RECEIVE DIRECT DELIVERY ORDERS

This indicator measures the percentage of MHPL items on transversal contracts delivered directly to hospitals designated by the province to receive direct delivery orders. This activity is no longer included in the scope of GHSC-TA.

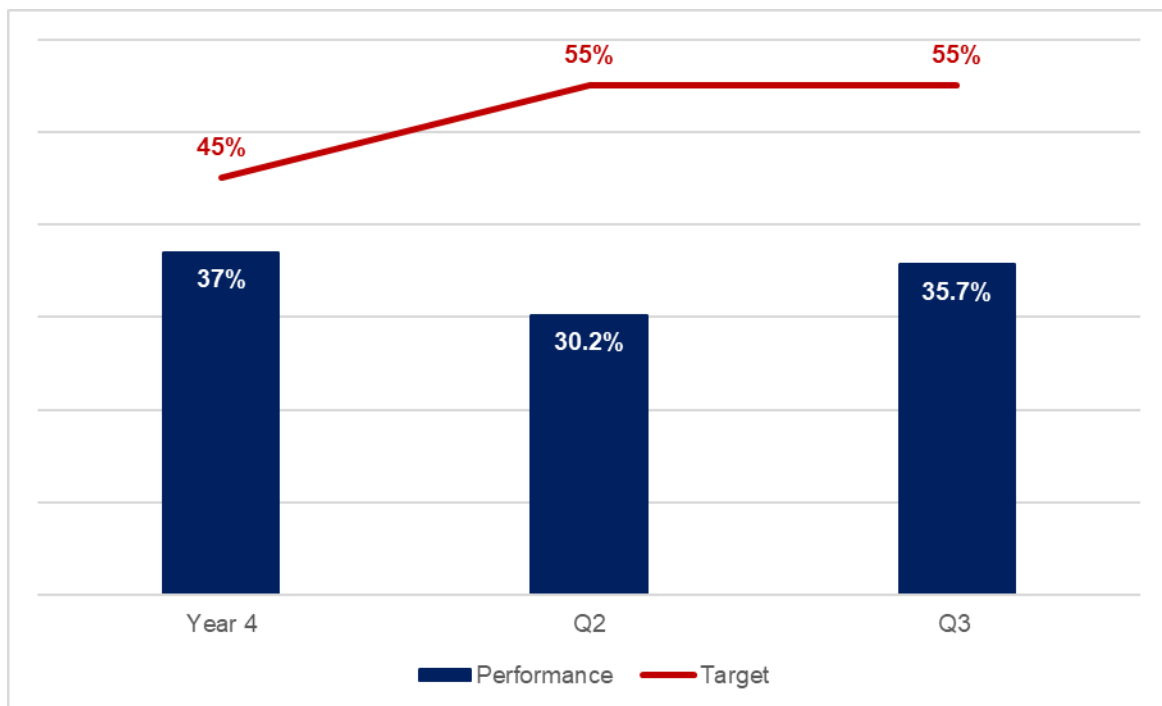
KPI 9. DEMAND FORECAST ACCURACY FOR PROVINCES USING THE DEMAND FORECASTING PROCESS

This indicator measures the accuracy of forecast demand relative to actual volume for provinces where the standard demand planning process has been implemented. It is critical to have high forecast accuracy to avoid stock outs and maintain appropriate levels of inventory.

Data challenges remained during Q3, with the State Information Technology Agency (SITA) not providing the required actual consumption data in time. GHSC-TA assisted the NDoH to enable reporting using MEDSAS data, however, the data accuracy needs to be verified. At the end of the reporting period, demand forecast accuracy for provinces using the demand forecasting process was reported at 35.7 percent, an increase from the 30.2 percent reported in Q2. Performance remained below the target of 55 percent, as shown in Figure 7. Big swings in ARV monthly volumes, driven largely by volatility in the TLD transition, drove forecast accuracy down. Furthermore, donation stock

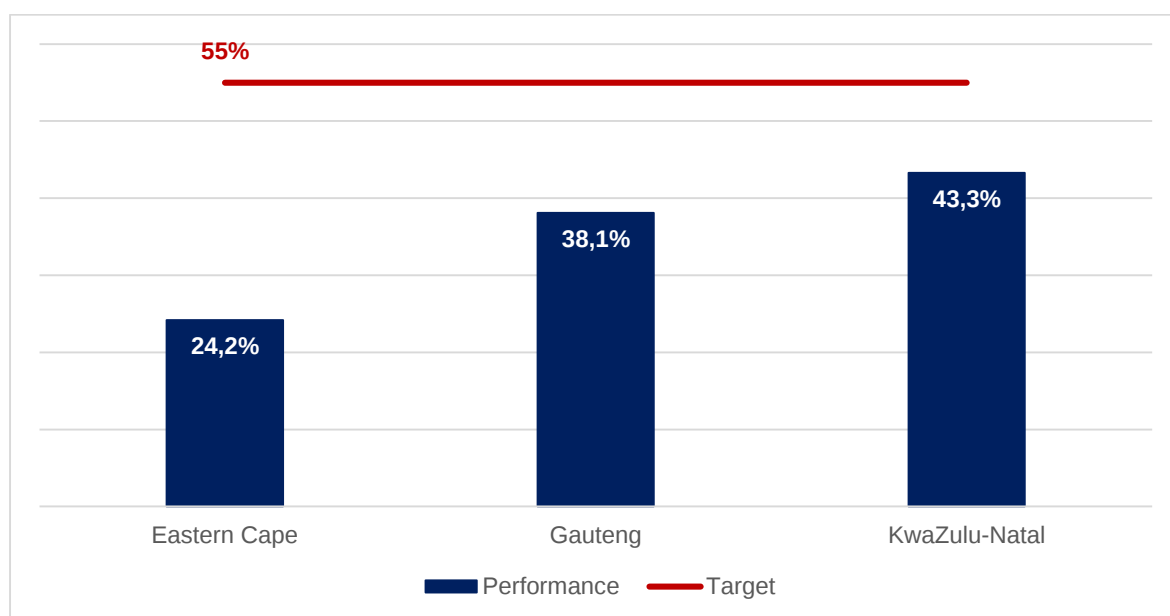
of packs of 90s were being used in the provinces vs. the standard pack of 28s. This was not in the original demand forecast.

Figure 7: Overall Demand Forecast Accuracy in Year 5



At a provincial level, KwaZulu-Natal achieved the highest forecast accuracy with 43.3 percent, up from 42.2 percent in Q2. Gauteng also improved to 38 percent from 7.6 percent in the last quarter. Data by province at the end of June is provided in Figure 8. Challenges with ARV forecast accuracy was particularly acute in Eastern Cape and North West. Attention will remain on this forecast with the team continuing to engage with provinces to strengthen the demand planning process.

Figure 8: Disaggregation by Provinces

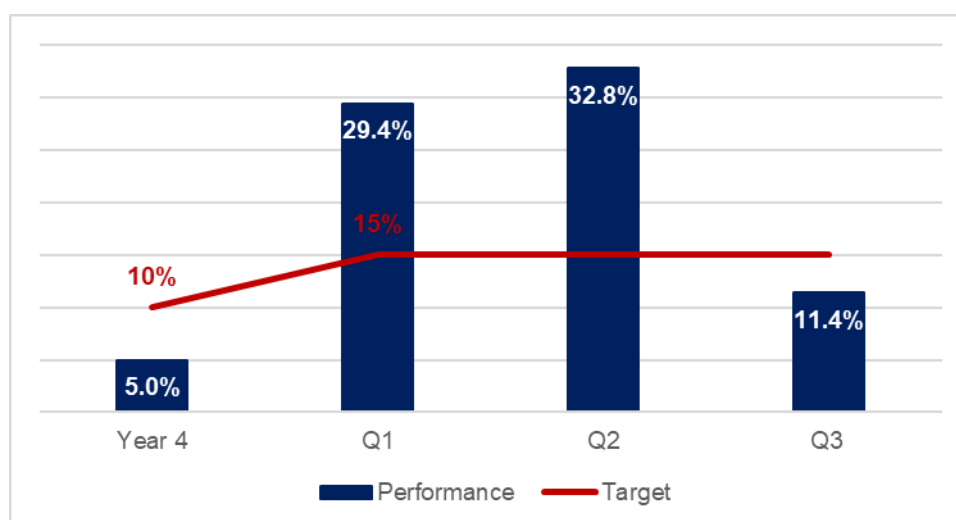


KPI 10. FORECAST BIAS FOR PHARMACEUTICAL FORECASTS IN PROVINCES

Forecast bias measures the tendency for actuals to be over or under the forecasted amounts on a consistent basis. The presence of a tendency in either direction requires investigation and corrective action. Forecast bias is measured as a variance between forecast demand and actuals, either positive or negative, expressed as a percentage of actuals over a series of consecutive periods.

At the end of the reporting period, demand forecast bias for pharmaceutical forecasts in provinces was reported at 11.4 percent, an improvement to the 32.8 percent reported at the end of Q2. Performance was within the target of 15 percent, as shown in Figure 9. However, TB and vaccines showed poor performance bias largely due to less people visiting facilities for treatment.

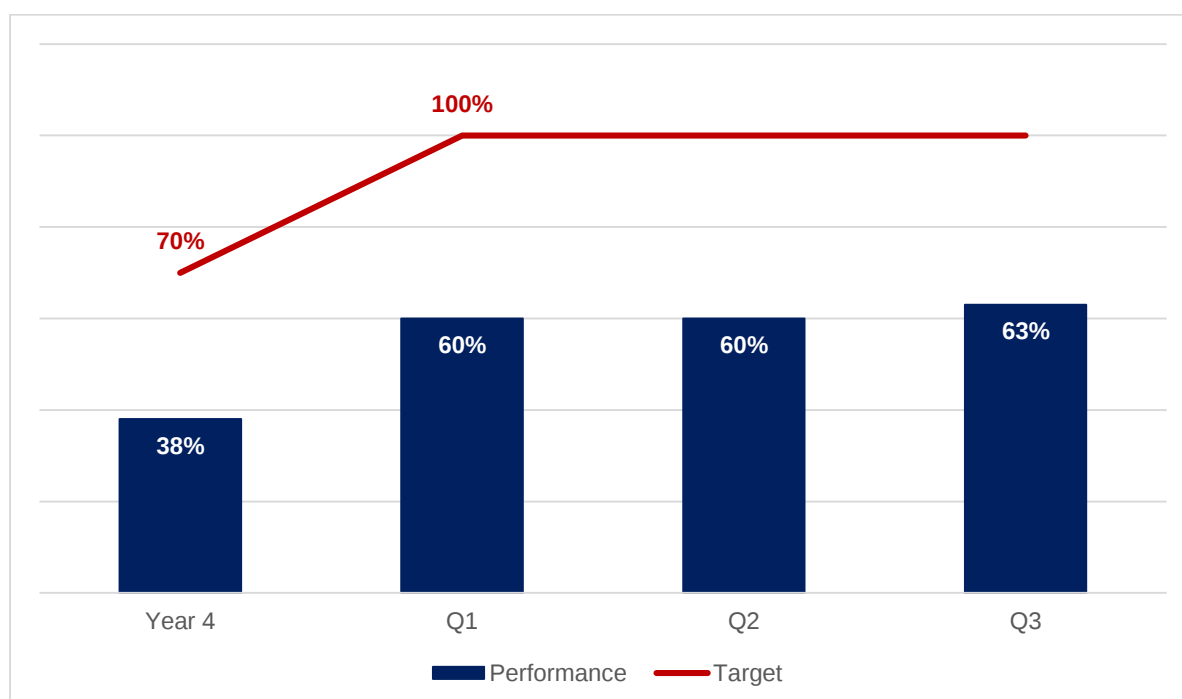
Figure 9: Forecast Bias for Pharmaceutical Forecasts in Provinces



KPI 11. PERCENTAGE OF ELIGIBLE PATIENTS TRANSITIONED FROM TEE TO TLD

This indicator measures GHSC-TA's support as part of the TLD transition to support the phase-out of TEE and roll out of TLD nationally. As Figure 10 shows, at the end of Q3, 63 percent of patients were transitioned from TEE to TLD, which is below the Year 5 target of 100 percent of patients eligible to transition. Notably, performance has remained stable since the last quarter. Since the start of the Covid-19 pandemic, the program noticed a significant drop in the number of patients remaining on ART and is currently investigating the issue. The HIV Program and support partners are assisting provinces with implementation of provincial catch-up plans to trace and return patients to care. Measures were implemented by the TLD task team to accelerate the rate of transition to TLD by revising existing training modules, updating algorithms used by clinicians when switching patients and providing refresher training. The TLD task team is working closely with provincial stakeholders with the aim of transitioning 70 percent of existing TROA to TLD by December 2021.

Figure 10: Percentage of Eligible Patients Transitioned from TEE to TLD

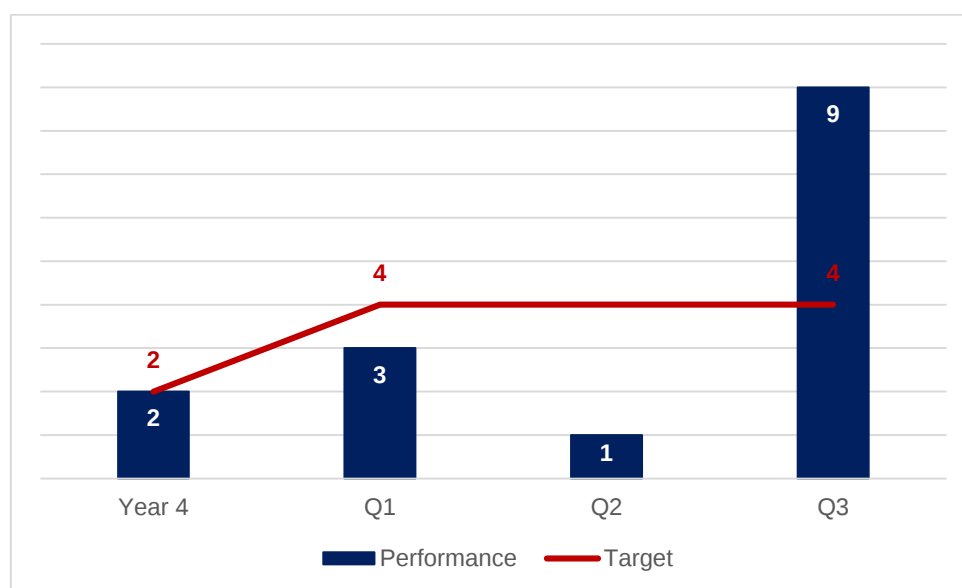


KPI 16. NUMBER OF PROVINCES WHO REVIEW THEIR BUDGET VS. ACTUAL AS DEFINED IN THE NEW BUDGETING PROCESS TO SUPPORT THE RING-FENCED BUDGET

This indicator, shown in Figure 11, measures the effectiveness of GHSC-TA support to the development and implementation of budgeting and financial management processes at the provincial level. The demand planning tool and process, developed by GHSC-TA, support PDoH in establishing an accurate forecast to inform the annual pharmaceutical budget. GHSC-TA had trained four provinces (Gauteng, KwaZulu-Natal, Eastern Cape, and Northern Cape) to update the dashboard and visualize their own data. In addition, three provinces (Northern Cape, Mpumalanga, and North West) were supported to visualize their medicine expenditure in an effort to improve the monitoring and reporting efforts. At the end of Quarter 3 all nine provinces reviewed their budget as part of in-year monitoring -all provinces are required to report expenditure, accruals and commitments on a quarterly basis.

GHSC-TA will continue to support the provinces and institutionalize the use of the dashboard for monitoring the medicine budget spent and standardize the review process.

Figure 11: Number of Provinces who Review their Budget vs. Actual as Defined in the New Budgeting Process to Support the Ring-Fenced Budget

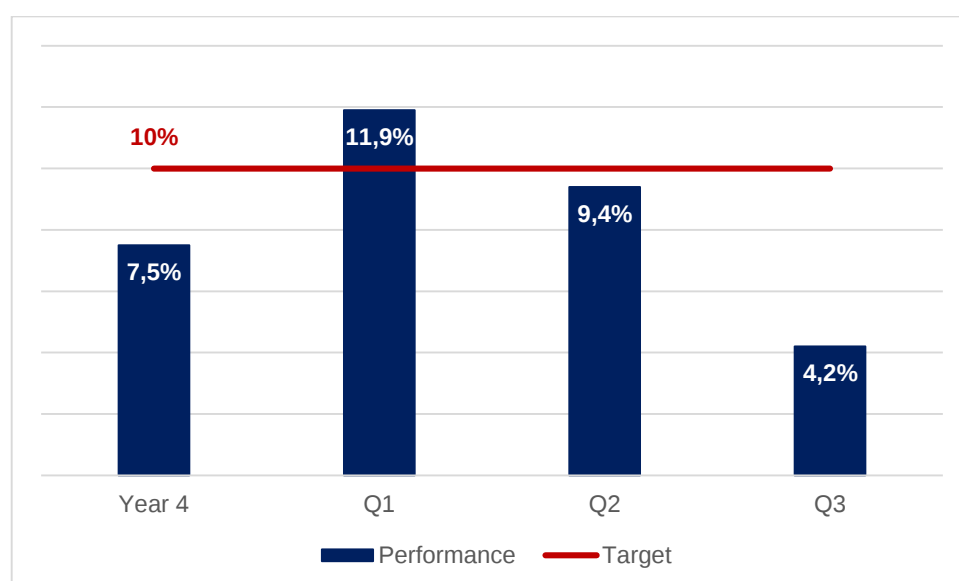


KPI 17. PERCENTAGE OF EXPENDITURE ON NON-ESSENTIAL MEDICINE LIST ITEMS

This indicator measures the percentage of expenditure on non-EML items as compared to total expenditure on medicine at the provincial level. Non-EML items describe medicines that do not appear on the national EML as determined by the NEMLC. Medicines which do not appear on the EML can be approved for use through provincial, district or institutional PTCs.

Similar to KPIs 9 and 10, this KPI was impacted by the lack of data from SITA. The list of medicines measured was expanded as the EML/non-EML classification was expanded. This was applied to the historic data to ensure consistent measurement and hence a change can be seen from the previous reporting period, as demonstrated in Figure 12. The non-EML expenditure has been coming down, which is an improvement quarter on quarter. At the end of Q3, the non-EML expenditure was reported at 4.2 percent, which remained within the target of less than 10 percent.

Figure 12: EML vs Non-EML Spend on Medicine List Items





5. STRENGTHEN GOVERNANCE

One of the AMD functions is to provide oversight and set policy with respect to PS provided in South Africa. Support provided by GHSC-TA includes assisting the AMD and provincial PS with improving governance by strengthening the policy and legislative framework, establishing appropriate governance structures, and building capacity to provide the necessary oversight. A key role of GHSC-TA is to provide TA in the development of relevant policies and legislation necessary for the implementation of strategic priorities and interventions.

ACTIVITIES AND ACHIEVEMENTS

GOVERNANCE AND LEGISLATION

GHSC-TA conducted several activities in Y5 Q3 to strengthen governance by developing and revising policies as an enabler for medicine availability. Most notably, the program supported activities in the areas of contracting, and contract management.

CONTRACTING AND CONTRACT MANAGEMENT

Procurement of medicines for use in South African government hospitals and clinics takes place following a competitive tendering process. The resultant contracts are, therefore, extremely important for medicine availability. Once contracts have been awarded, AMD plays a critical role in monitoring and managing supplier performance. In addition to the management of contracted suppliers, it is important that the performance of all parties, including participating authorities and demanders, are also monitored and managed. Support provided by GHSC-TA is focused on strengthening contracting and contract management processes.

Contracting. In efforts to promote the security of supply of essential medicines, including ARVs and medicines used in the prevention and treatment of TB, GHSC-TA continued to support AMD with developing the specifications for items to be advertised for the awarding of contracts. GHSC-TA facilitated a discussion on proposed changes to the SRCC for the ARV tender. The approved template has been utilized for three other tenders published in this reporting period. Activities included preparing the tender to be published, evaluating bids, and preparing documents for the Departmental Bid Adjudication Committee and final award.

Criteria for inclusion of items. During Q3, GHSC-TA supported the Bid Specification Committee with revising the criteria for inclusion of items in tenders to include how therapeutic classes will be managed in specifications. The criteria to be used for inclusion of therapeutic classes was aligned to the therapeutic class policy.

Improved Medicine Availability Team. GHSC-TA continued to support AMD with implementation of IMAT and IMAT - Exploded per the approved TOR. The support included identifying other interventions to resolve medicine availability challenges. Additionally, the program provided support in revising the IMAT - Exploded minutes' template and developing a standard agenda and an action tracker template.

Centralized allocation of stock. During the reporting period GHSC-TA supported AMD with developing the guiding principles for centralized allocation of medicines. The centralized allocation of stock is an additional intervention to address medicine availability challenges. This approach aims to equitably allocate supplies available to all participating authorities (who require such stock) when there are challenges with the availability of a particular item, and thus reduce the potential of stock outs. The draft has been presented to the IMAT- Exploded and shared with provinces for further comment.

Supplier due diligence. During this reporting period, GHSC-TA commenced developing the principles for conducting supplier due diligence prior to contract award and during the contract period. The SRCC makes provision for AMD to conduct site visits (supplier due diligence) prior to award and during the contract period to assess: whether an item is manufactured at the site specified in the bid documentation; the bidder/contracted supplier has at least two months' buffer stock on hand; and the bidder/contracted supplier has capacity for their allocation or adjusted and agreed demand. The purpose of the policy is to clarify the triggers for site visits prior to, and during, the contract period.

Management of non-compliance. During Q3, GHSC-TA continued to refine the policy principles for managing non-compliance of contracted suppliers to the SRCC. The purpose of this work is to identify types of non-compliance letters that may be issued to suppliers as aligned to the supplier performance KPIs and to ensure defaulting suppliers are issued with non-compliance letters. GHSC-TA facilitated a discussion with IMAT to identify how exceptions will be managed.

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that through increasing the capacity of the AMD to develop and institutionalize effective policies and legislation, and implement good governance practices in coordination and engagement with key stakeholders, the AMD will demonstrate an increased application of good governance principles embodied in policies, implementation plans, processes, and SOPs. There are no outcome level KPIs reported under this objective.



6. IMPROVE WORKFORCE MANAGEMENT

To strengthen the workforce and organizational structures within AMD and in the provinces to perform the functions necessary to improve medicine availability, GHSC-TA continued to provide TA to AMD.

ACTIVITIES AND ACHIEVEMENTS

During the previous quarter, GHSC-TA supported the recruitment and successful appointment of two NDoH demand planners. These planners were put through an on-boarding program facilitated by GHSC-TA to capacitate them in demand planning processes and navigation of the NSC. In this quarter, they were supported through the handover process and are doing demand planning for KwaZulu-Natal and North West.

At the start of the Covid-19 pandemic, GHSC-TA implemented a provincial mentorship program to assist clinicians who have not completed the TLD training. Guidance was provided by prescriber, with considerable experience in switching clients to TLD. The program was first introduced in KwaZulu-Natal and based on the successful implementation was rolled out to other provinces. Implementation of the mentorship program enables clinicians to continue with the transition and work in a supportive environment. GHSC-TA also trained and mentored the provincial TLD champions to take over activities in preparation for close out of the TLD transition project. Key staff members were trained on the use of the TLD dashboard to monitor medicine availability of key items related to the transition and the use of provincial allocations.

Contract Management transition. During the period under review GHSC-TA developed the transition plan for resources supporting AMD as contract managers. The plan included a proposal on re-allocation of supplier portfolios to current AMD contract managers. The handover pack was presented to AMD and accepted. A total of 38 suppliers, with 445 line items were handed over to the contract managers in the CMU at AMD. In addition, the hotlist/ supply plan was handed over, including the SOP for updating the tool.

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that by supporting the AMD to develop a set of standardized structures, roles, competencies, and performance management practices, along with the institutionalization of a change management program in collaboration with the upskilling and mentoring of staff, the AMD will foster an improved culture aligned with proactive patient-centric decision-making and enhanced leadership management and technical skills, thus improving workforce management practices. There are no outcome level KPIs reported under this objective.



7. STRENGTHEN INFORMATION SYSTEMS AND INFORMATION MANAGEMENT

Information systems are critical to support the AMD SIMA. Beyond organizational governance, GHSC-TA supports data governance and management of master data elements crucial to enable interoperability of information systems. Further, the team supports and recommends enhancements to existing systems, analytical processes, and dashboards used by AMD and provincial PS for daily transactions and to inform decision making and continuous improvement.

ACTIVITIES AND ACHIEVEMENTS

MASTER MEDICINE DATA SYSTEM

The AMD is working towards ensuring that medicine master data can be exchanged and processed between different devices and systems and across networks within the medicine supply chain. The MMDS, which is under development, will provide a centralized, uniform set of master data relating to medicine. The goal is for information systems to read medicine master data from this central repository via system interfaces to achieve seamless interoperability. The availability of a set of uniform

master data will support improved efficiencies at all levels of the health care system and facilitate visibility via the NSC, ultimately contributing to medicine availability improvements.

GHSC-TA provides support to elicit system requirements and reach agreement on definitions of master data-related elements, documenting requirements, preparing conceptual data designs, and system testing once these requirements are implemented. During the quarter under review, GHSC-TA continued to provide TA in the development of specifications and implementation of modules of the MMDS, which consists of four components: Medicine Data, Contract Data, a Formulary Management Tool, and Location Master Tool.

Development. During the quarter, GHSC-TA continued supporting the AMD-contracted service provider with development. The major development themes this quarter were around support for the “Ideal Clinic” Tracer List governance requirements and mass update and upload functionality to improve usability of the system.

The “Ideal Clinic” tracer list represents a minimum set of medicines that must be kept at all Primary Health Care (PHC) health establishments in the country, and is used as a proxy to monitor medicine availability and performance of the supply chain. Implementation has been complex because the list is specified as a combination of active ingredients, medicines and pack sizes. This functionality will be a valuable tool to support rapid assessments of the compliance of individual formularies with the tracer list. During the quarter, GHSC-TA assisted with requirements gathering and functional specification of the requirements needed to enable exception report comparisons between PHC facility formularies and the tracer list.

Formularies can comprise large lists of items and adding these items sequentially is very time consuming. During Q3, GHSC-TA assisted with requirements and testing of functionality that allows bulk import and bulk status update of selected lists improving usability and efficiency.

Additionally, GHSC-TA advised on structuring and loading of additional medicines to align medicine lists with the NSC and SVS, and updating of formulary management *pro forma* SOPs. A major milestone was reached when the legacy Medicine Procurement Catalogue, which was prepared manually and was in the process of being retired, was completely withdrawn.

NATIONAL SURVEILLANCE CENTER

GHSC-TA activities over this reporting period continued the focus on optimization of the NSC database, maintenance of the NSC, and ongoing support of the monitoring function as relevant to health establishment reporting compliance and medicine availability.

Enhancement of the NSC. GHSC-TA continued monitoring the new hosting environment to optimize the configuration and database environment. Additionally, the program worked with AMD to assist provincial health IT departments to orientate the remaining provincial servers to the new central server location.

Following migration of all the NSC workbooks to the new NSC server, GHSC-TA configured and set up RxSolution manual database backups on the new hosting environment, and successfully completed a backup test. The program also configured the RxSolution manual database backups to run daily rather than weekly. This change optimizes the backup process given the large size of the database.

GHSC-TA continued to work with AMD and provincial health IT departments to orientate the remaining provincial servers to the new hosting environment. The program configured the North

West and Limpopo provincial servers, with provincial RxSolution API sites submitting data automatically via the API from mid-April 2021.

In addition, the program continued with the daily consolidation and execution of the NSC data flows for daily data submissions from RxSolution (manual submissions and API submissions), depot Warehouse Management Systems, CCMDD service providers, and PPE data for purposes of the daily NSC refresh in support of the Covid-19 medicine availability and planning activities. The new data receiving process implemented after SITA stopped providing consolidated MEDSAS data in February 2021 also continued through the quarter as the SITA service has not been restored. This data receiving process is operative for Eastern Cape, Free State, Gauteng, and KwaZulu-Natal.

Dashboard development and optimization of data processes feeding into the NSC continued during the quarter and included the following:

- **Finance Dashboard:** The program presented final draft dashboards to AMD in May. A copy of the dashboard views was shared with AMD to review and provide feedback regarding any changes that may be required. This feedback is pending from AMD.
- **Integrated Trend Dashboard:** During the quarter, GHSC-TA completed developments on both the reporting compliance view and the work flows to integrate the filter and calculation for the PHC and Helium minimum basket consideration. These changes were also published to the integrated view reporting compliance report.
- **GP Care Cell (GPCC) data:** The submission of data from GPCC sites in the City of Johannesburg was initiated and integrated into the NSC. This data is displayed in line with the original configuration used for such sites.
- **Reporting compliance trend views:** The program developed the reporting compliance trend view during the quarter, and received approval from AMD to publish this view to the integrated dashboard trend views.

Institutionalization of the NSC. GHSC-TA continued to drive institutionalization of the NSC by compiling reviews of reporting compliance of health establishments to the NSC, as well as reviews of medicine availability at health establishments during the quarter. The program submitted these reviews to AMD on a weekly basis and presented them to AMD and the provinces in the weekly Covid-19 response meetings. In May 2021, GHSC-TA was invited by AMD to present medicine availability and reporting compliance as a standing agenda item to provincial procurement staff, pharmacists, and other key stakeholders in the IMAT - Exploded meeting. Following this successful presentation, AMD has invited the GHSC-TA team to continue presenting at these meetings in the future.

In an effort to improve user activity on the NSC, the program developed and circulated NSC flash fact cards, a series of messages geared towards providing licensed NSC users with information about the NSC that will support usage of system. The AMD Project Manager circulated the first “Let’s get acquainted with the NSC” flash message to all NSC users on May 03, 2021, but subsequent messages were halted. GHSC-TA and AMD are determining a way forward regarding continuation of the messaging series.

In addition, GHSC-TA commenced discussions with the AMD quantitative analyst regarding the possibility of transitioning support functions and reporting functions to AMD. Follow-up discussions with AMD are still to take place on feedback around the roles and the transition plan.

Technical Function Specification. During the period under review, the program continued to work on the technical documents for the NSC, including the NSC technical function specification document, workflow documents, a daily task summary, and an NSC design template. GHSC-TA

updated the NSC roles and responsibilities document to align with the updated NSC views, as well as the daily task summary, and submitted these documents to AMD.

GHSC-TA held a meeting with AMD Management and the AMD NSC Manager in May, where continuity and handover of NSC functions beyond the lifespan of the project were discussed, including the NSC component, hosting, maintenance, and support that need to be transitioned from GHSC-TA to the NDoH contracted service provider (Mezzanine). As a next step, AMD will discuss these items internally and provide feedback to GHSC-TA.

SUPPLY CHAIN SYSTEMS

Technology and information systems are critical enablers of health supply chain performance. Key activities performed in support of this objective during the period under review include supporting the development and deployment of information systems, including SVS.

Implementation and Development of SVS. During Q3, GHSC-TA largely shifted focus towards the development and implementation of the new SVS Covid-19 instance as part of the national Covid-19 vaccination program. Importantly, it is noted that the provincial prioritization of the vaccination program meant that the environment in the provinces was not optimal for the successful introduction and implementation of the enhancements to SVS (eOrdering and eReceiving) at scale. In spite of these challenges, the new eOrdering functionality was successfully implemented in the Free State and North West provinces. Initial end-user feedback in these provinces has been very positive and the expanded deployment of the system has been welcomed.

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that, by supporting the AMD in the design and implementation of IT systems and the NSC, the AMD will be empowered to deploy systems that enable evidence-based decision making, leading to improved medicine availability.

KPI 12. PERCENTAGE OF USERS UTILIZING THE NSC TO REVIEW MEDICINE AVAILABILITY TRENDS AND REPORTS

This indicator measures the frequency with which licensed users access the data available on the NSC dashboards, including medicine availability trends and other reports. GHSC-TA has defined utilization as logging on to the NSC at least once a month to review data.

At the end of Y5 Q3, overall performance was reported at 60 percent, an increase from the 57 percent achieved in Q2, and below the Y5 target of 80 percent. The increase could be associated with the continued support by GHSC-TA through the PST of monitoring usage and engaging with users. It must be noted that low usage in Limpopo and Western Cape and by AMD, continue to have a negative impact on overall performance of this KPI shown in Figure 14. This is an ongoing challenge that is being addressed.

Figure 13: Percentage of Users Utilizing the NSC to Review Medicine Availability Trends and Reports

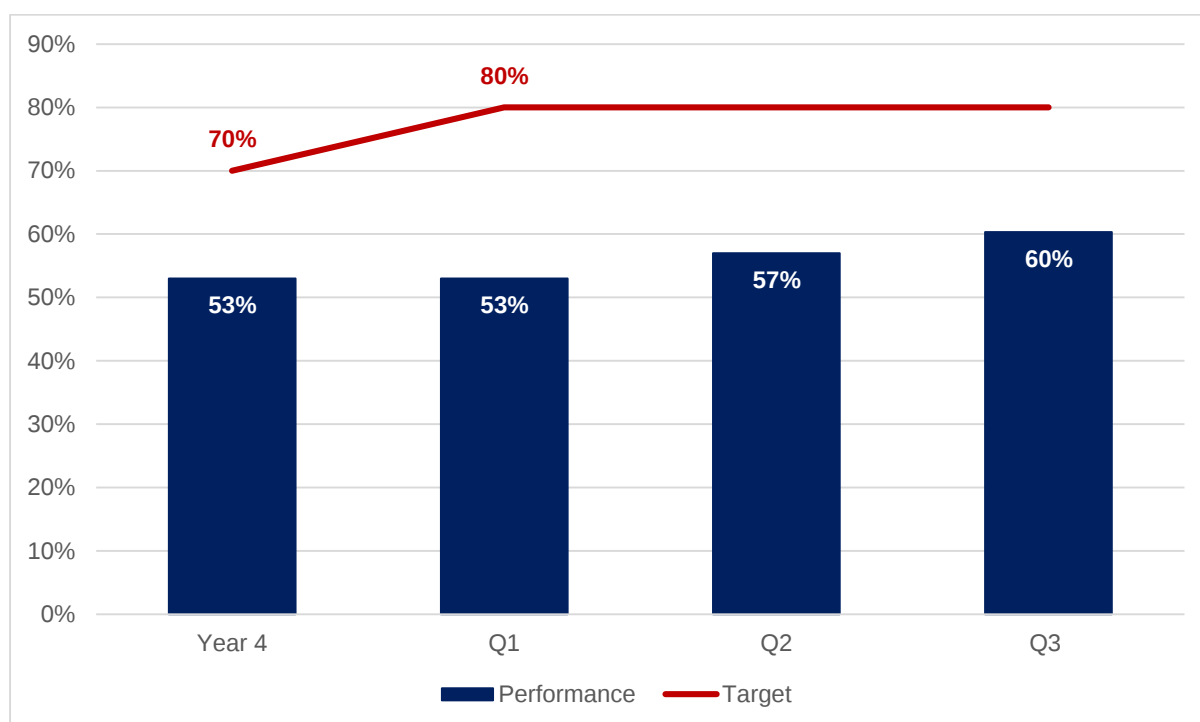
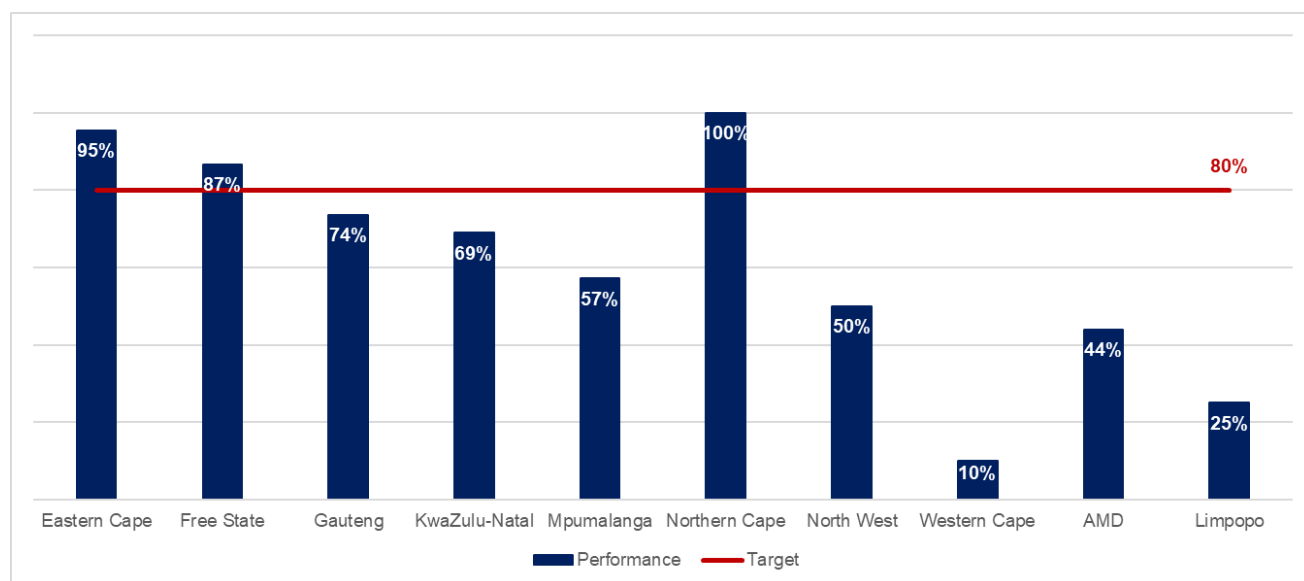


Figure 14: Percentage of Users Utilizing the NSC to Review Medicine Availability Trends and Reports



Although there is still room for improvement, the impact of the concerted efforts of the PST to improve NSC usage is evident in the improved performance of this indicator, particularly in the Eastern Cape, Free State, and Northern Cape. Activities that resulted in these improvements included reallocation of licenses of inactive users, hosting a number of end-user support webinars, and targeted stakeholder engagements focusing on users with low usage.

KPI 13. NUMBER OF HEALTH ESTABLISHMENTS AND WAREHOUSES UTILIZING MEDICINE MASTER DATA SYSTEM AS A SOURCE OF MASTER DATA

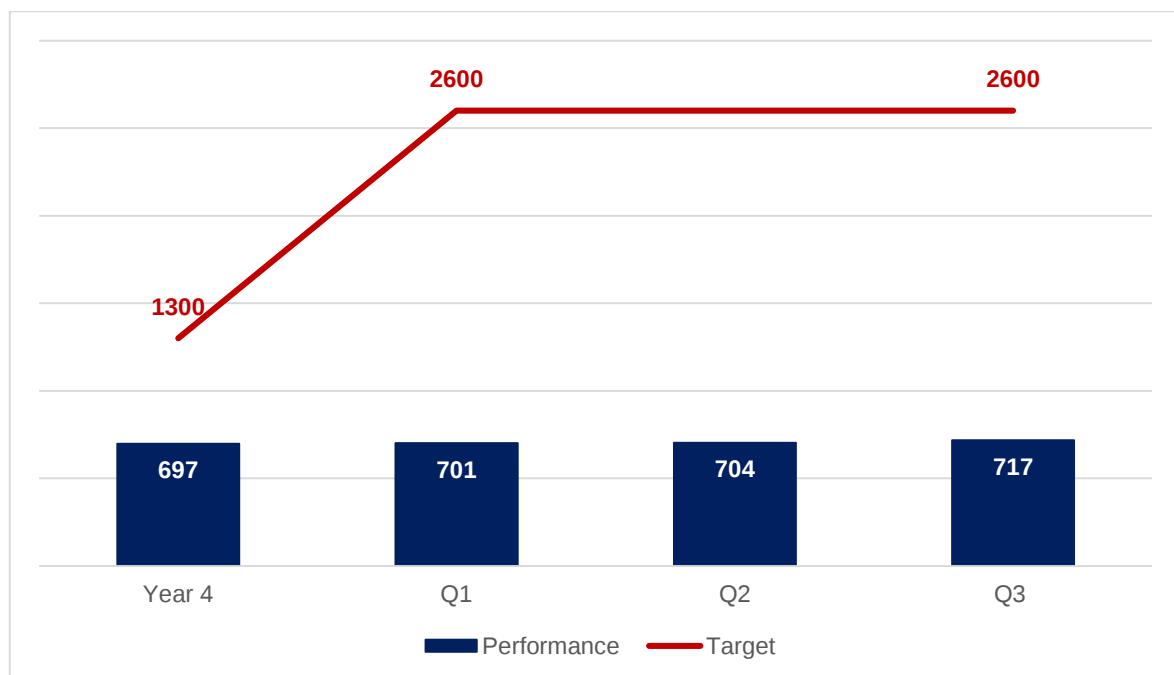
This indicator measures the number of health establishments (including hospitals and clinics) and provincial warehouses, utilizing MMDS as a source of master data. Two of the core functions of the MMDS are the MHPL and the formulary tool. Utilization is defined as either drawing information from the MHPL to inform practices or creating a formulary.

GHSC-TA is providing technical support to the MMDS developers to integrate MMDS data into SVS via system-to-system integration and extending RxSolution to call medicine master data from the MMDS via system-to-system calls. This metric will be tracked when these integrations go live. This integration is likely to go live by the end of September 2021.

KPI 14. NUMBER OF HEALTH ESTABLISHMENTS USING CORE SUPPLY CHAIN INFORMATION SYSTEMS TO ORDER AND/OR RECEIVE STOCK

This indicator measures GHSC-TA's support for the expansion of core supply chain information systems including SVS and RxSolution across health establishments. By the end of Q3, the total number of health establishments using information systems for ordering and receiving was reported at 717, an increase from 704 reported in Q2, as shown in Figure 16. Notably, performance remains below the target of 2600. A total of 605 health establishments were using RxSolution, 110 were using JAC, and two were using Meditech shown in Figure 16. Previously, growth in this metric had come from RxSolution as a core medicine inventory management system for hospitals and CHCs. There is a reduction in the expansion of RxSolution as saturation increases for the available sites. Further growth is expected to come from the new SVS eOrdering functionality as part of the informed push (advised pull) replenishment approach that is being rolled out.

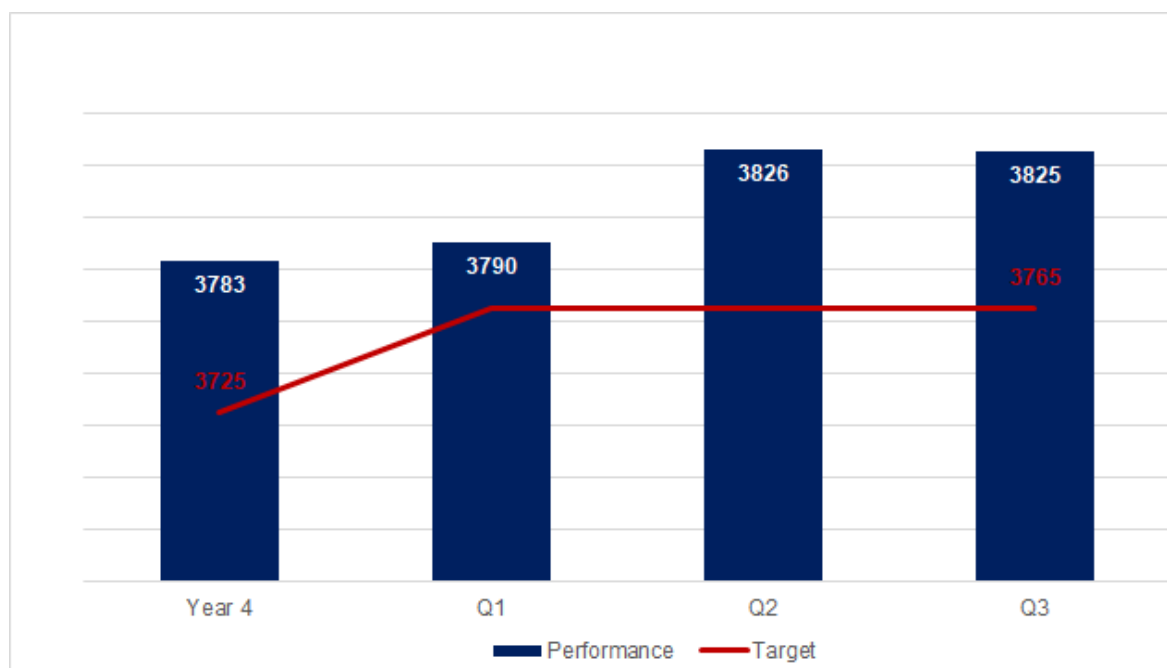
Figure 15: Number of Facilities Using Core Supply Chain Information Systems to Order and/or Receive Stock



KPI 15. REPORTING COMPLIANCE – PERCENTAGE OF HEALTH ESTABLISHMENTS REPORTING STOCK AVAILABILITY TO THE NSC

The reporting compliance KPI shown in Figure 16 measures the percentage of health establishments reporting stock availability to the NSC. At the end of Quarter 3, a total of 3,825 facilities were reporting stock availability to the NSC against a Year 5 target of 3,765, bringing the reporting compliance to 102 percent of the GHSC-TA target. The main contributing factors to this success have been the increased need and reliance on medicine availability data, the high-level of interest in good performance on this KPI, as well as the ongoing support provided by the GHSC-TA program towards ensuring sustained reporting by health establishments.

Figure 16: Number of Health Establishments Reporting Stock Availability to the NSC





8. PROVINCIAL SUPPORT AND REPLENISHMENT PLANNING

This work aims to streamline and support coordinated implementation of the activities across the various work streams within the GHSC-TA program in the provinces and, in so doing, ensure coordination, alignment, and successful implementation of the various supported supply chain reforms.

ACTIVITIES AND ACHIEVEMENTS

During this reporting period the activities of the team remain significantly impacted by the Covid-19 pandemic, including the nationwide Covid-19 vaccination program. These constraints have meant that not all GHSC-TA's province-facing activities were implemented as planned.

INSTITUTIONALIZATION OF THE NSC

After taking a dip over the holiday period (December through February), the national reporting compliance continues to recover, although it has yet to rise to the levels observed in Q4 of Year 4. The sub-optimal reporting rates in provinces are due, in part, to the continued mobile device refresher process at facilities reporting using SVS over this period – now extended to Gauteng and North West. Provincial support activities aimed to address this challenge have continued, including development

and use of an activity tracker to monitor progress of the device redeployment process and communicate the projected impact on reporting compliance with the relevant stakeholders.

Routine activities driving NSC institutionalization continue, namely the circulation of bespoke reporting compliance and medicine availability reports flagging areas of focus, continuous monitoring of performance on a weekly basis, and provision of direct support to, and engagement with, provincial counterparts to highlight challenges and devise solutions.

This quarter, GHSC-TA supported the launch of an information drive to address the dip in NSC usage observed since the switch to the new NSC server. Notably, the NSC walk-through sessions held in Eastern Cape appear to have resulted in a marked improvement in NSC usage rates in the province.

REPLENISHMENT PLANNING

Replenishment planning deals with a combination of activities and processes required to ensure that stock used is replenished at the right place at the right time and in the right quantities to meet patients' needs. These activities are particularly focused on supporting provincial implementation and institutionalization. Some of the key areas covered include standardization of medicine master data, strengthening formulary management processes, and optimizing the use of proven supply planning principles to inform replenishment, which includes optimizing min-max calculation methodologies and introducing new methods for replenishing stock at health establishments.

MMDS and Formulary Tool. Formularies are essential tools supporting RMU and informing medicine supply management activities. They provide the details of which medicines should be stocked at each health establishment and assist to ensure that these medicines are aligned with the EML and STGs. In this quarter, GHSC-TA made significant progress in the Free State, working closely with the district pharmacists in Fezile Dabi and Thabo Mofutsanyana districts and the Provincial PTC representative to build formularies on the MMDS for the districts and the province, respectively.

The approval and loading of all individualized formularies onto the MMDS Formulary Tool was completed for 46 facilities (PHCs, CHCs and hospitals) in Fezile Dabi. The focus in this district has now moved to handing over the continued maintenance activities and ongoing support to capacitate the district to maintain their formularies on the system.

Additionally, GHSC-TA supported the expanded roll out of the formulary tool to the Thabo Mofutsanyana district, with all 82 facilities now loaded onto the location tool on the MMDS in preparation for loading the formularies for these facilities. The preparation of the PHC formulary template for the district is in progress.

Optimization of Minimum and Maximum Stock Levels. During this quarter, GHSC-TA continued to make significant strides towards operationalizing the optimized methodology for calculating min-max stock levels. The work initiated in the Free State last quarter culminated in the completion of the min-max stock level outputs in all four sub-districts in Fezile Dabi district and loading of the parameters on the SVS system for 30 of the 41 health establishments (73 percent) using SVS in the district. These parameters along with the min-max reports under development on the NSC will go a long way to facilitate stock monitoring activities and empower managers to proactively manage the supply and use of medicines. In the next quarter, the roll-out in the province will be expanded to include Xhariep district - this work is already underway. Engagements to commence this work in the Eastern Cape have also begun, with the support of the Head of PS.

Advised Pull. The informed push/advised pull process, implemented by GHSC-TA, helps to create a standard approach to replenishment planning at health establishments. This process is enabled through optimization of the min-max stock level calculation applied to the customized formulary of a health establishment and enabled electronically through the use of technology. During the period under review, GHSC-TA collaborated with the Free State to develop plans to expand the implementation of advised pull to the rest of the province after positive reception of the PoC presentation to the HOPS and provincial pharmaceutical leadership team. In the NW, the team expanded the implementation of the advised pull PoC to a further 12 sites in the Ngaka Modiri Molema district. The program developed a transition and handover pack including a train-the-trainer approach to ensure sustainability and enable provinces to lead implementation of advised pull with support from the GHSC-TA team as required.

OTHER ACTIVITIES

During Q3, the PST continued to support the monitoring of availability of TEE, TLD, and contraceptives required for the TLD transition. Challenges with the availability of contraceptives continued and the team worked closely with the provincial TLD coordinators to flag and address any supply-related issues with the potential to impact the transition. Provincial activities in support of demand planning remained focused on supporting the routine demand planning review meetings in provinces where this work has been initiated, including facilitating stakeholder engagement. Provincial activities relating to RMU have been deprioritized, as reported above, and will recommence as soon as feasible.

OUTCOME LEVEL RESULTS

KPI 8. NUMBER OF HEALTH ESTABLISHMENTS AND WAREHOUSES WITH CONFIGURED MINIMUM AND MAXIMUM (MIN-MAX) STOCK LEVELS FOR STOCKED MEDICINES BEING REPORTED TO THE NATIONAL SURVEILLANCE CENTER

This indicator measures GHSC-TA activities that contribute to the configuration of minimum and maximum (min-max) stock levels. Min-max stock levels are basic stock usage parameters used to inform replenishment management processes. When placing a requisition or purchase order, stock levels are replenished back up to the maximum level to ensure there is sufficient stock until the next order cycle.

At the end of Q3, 1,557 clinics and 260 hospitals were reported to have configured min-max stock levels on either the SVS and/or RxSolution systems, bringing the total to 1,796 against a target of 1,500. It must be noted that 21 health establishments use both systems. This number shows an improvement from the 1,751 reported by the end of Q2 shown in Figure 17. The success in this area is explained, in part, by the high level of interest from the provinces on optimising and utilising the min-max stock level parameters as a key component for effectively monitoring medicine availability. Further, the increase of sites with configured min-max levels observed in Q3 and shown in Figure 18 is largely due to a combination of provincial efforts to better manage min-max levels as well as efforts of the GHSC-TA program to assist provinces to improve and standardize their min-max calculation methodology. Given that these stock level parameters form a key component for effectively monitoring medicine availability, the program expects to continue building on this achievement as part of the rollout of the standardization of the min-max levels calculation methodology and the SVS enabled advised pull implementation.

Figure 17: Number of Health Establishments and Warehouses with Configured Minimum and Maximum (Min-Max) Stock Levels for Stocked Medicines Being Reported to the NSC

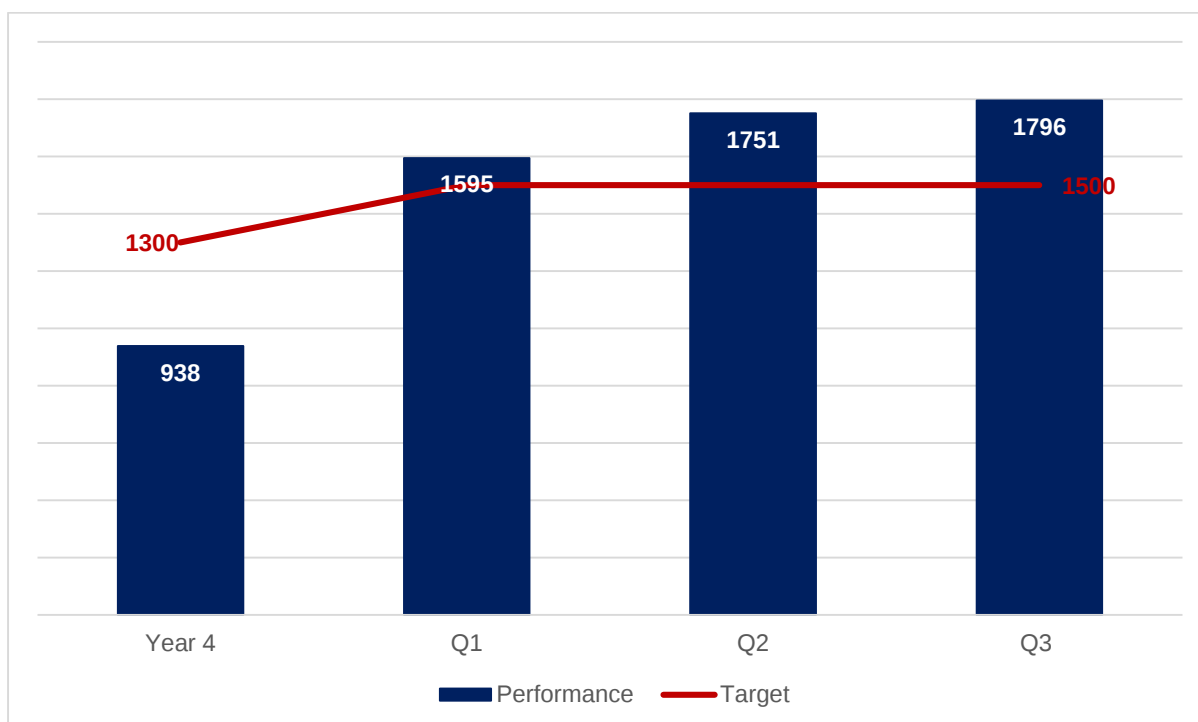
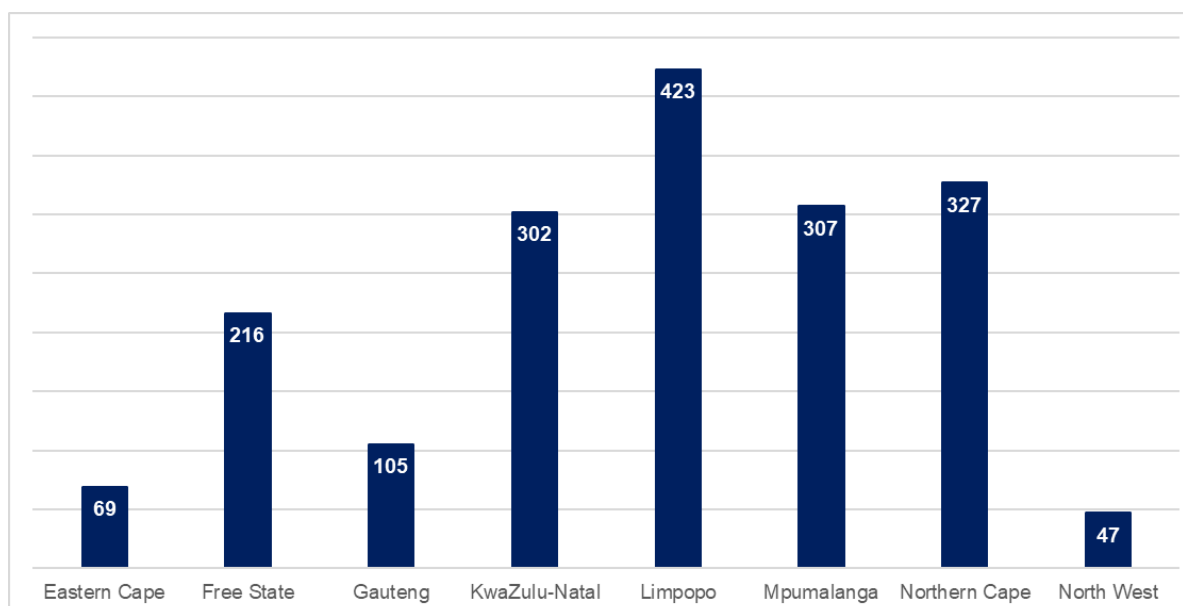


Figure 18: Number of Health Establishments and Warehouses with Configured Minimum and Maximum (Min-Max) Stock Levels: Disaggregation by Province





9. SUPPORTING THE GOVERNMENT OF SOUTH AFRICA IN THE RESPONSE TO COVID-19

GHSC-TA provides TA to the GoSA to strengthen public health systems and supply chains to advance an AIDS-free generation, increase medicine availability, and contribute to the achievement of universal health coverage.

An effective supply chain is key to a consistent and uninterrupted supply of medicines to meet patient demand. Supply and demand planning is aimed at forecasting potential disruptions to the supply chain. However, rapidly evolving global pandemics can be difficult to forecast, giving them the potential to have a negative impact on health outcomes, quality of life, and a nation's economy. The global Covid-19 pandemic has the ongoing potential to cause challenges in the availability of medicines used to fight HIV/AIDS, TB, and other diseases.

Over and above medicines, it is critical to limit the spread of the disease and protect both patients and health care workers. To this end, the need for a reliable supply of PPE is also of paramount importance. A key response to the Covid-19 pandemic is the global roll out of effective vaccines. In South Africa, GHSC-TA is providing comprehensive TA to the NDoH, the provinces, the private

sector and other stakeholders in the planning and implementation of the roll out of the Covid-19 vaccination program.

OBJECTIVES

Across the globe, countries are responding to the Covid-19 pandemic by tasking their national departments of health and other relevant bodies with tracking and controlling its spread. The rapid outbreak of Covid-19 presents a challenge to containing it, as does the lack of information on exactly how the virus spreads from person to person, and how best it can be treated. South Africa detected its first case of Covid-19 on March 5, 2020. By June 30, 2021, a total of 1,973,972 confirmed cases of Covid-19 had been recorded in South Africa, with the country still under adjusted lockdown.

APPROACH AND KEY ACTIVITIES

GHSC-TA has continued to assist the NDoH in mitigating the impact of the Covid-19 outbreak in South Africa on the medicine and related medical products supply chain, and assisting in responding to the demand for medicines and vaccines to manage the disease.

Support to the MAC on Covid-19. In addition to working with AMD, GHSC-TA also provided support to the MAC on Covid-19, a non-statutory advisory committee appointed by the Minister of Health to provide high-level strategic advice to the Minister and the Director-General of Health on the management of the Covid-19 outbreak in South Africa. As of March 25, 2020, GHSC-TA began providing **secretariat** support to the MAC on Covid-19 and its sub-committees. To date the program has assisted in convening over **230 meetings**, documenting proceedings, and drafting advisories on Covid-19 related decisions. During the quarter under review, the program worked with AMD to provide continued support to the MAC on Covid-19 in convening meetings, providing technical support on ministerial advisories, and collaborating with other Covid-19 technical working groups. GHSC-TA also performed an analysis of the implementation of all advisories, as well as a report to the new Acting Minister of Health to introduce the mandate and function of the MAC on Covid-19.

Covid-19 Response Team. In response to the pandemic, AMD assembled a national and provincial Covid-19 response team. During this period, GHSC-TA continued to support AMD in weekly meetings (the AMD preparatory meeting and the provincial stakeholders meeting), reviewing the demand and supply of Covid-19 medicines.

GHSC-TA also supported the EDP and the demand planning team to generate forecasts of medicine requirements to treat patients presenting with Covid-19 and for items where security of supply was a challenge. The demand plan is published periodically, and is based on anticipated medicine requirements, patient projections, and baseline demand forecasts. Weekly monitoring continued and Covid-19 infection numbers shared with the core team and the provincial task team. During this quarter “third wave” modelling was conducted to generate a forecast for the potential outbreak of the third wave. The GHSC-TA team continued to work closely with the South African Covid-19 Modelling Consortium to ensure that updated information was built into the forecasts. The forecast for the third wave was published and shared with the supply planning team to review supply shortages and advise provinces regarding increased stock holding required.

GHSC-TA continued to support the NDoH and PDoH with the daily refreshing of the Covid-19 dashboards. The Covid-19 dashboards provide medicine availability and reporting compliance information using product categorization as determined by the Covid-19 response team. Categories include Covid-19 priority list items, Covid-19 treatment items, chronic medicines, and non-Covid-19

medicines. The program assisted with query resolution and the monitoring of reporting compliance and medicine availability, which was presented to provincial and national stakeholders on a weekly basis during the quarter.

GHSC-TA further supported the Covid-19 response by developing additional MAC dashboard views consisting of national and provincial level information. The program submitted these views, showing the seven-day moving average of daily hospital admissions and in-hospital deaths, and received approval from AMD during the quarter. In addition, GHSC-TA restored the NICD ArcGIS embedded link for the NICD daily summary dashboards on the NSC Covid-19 views.

PERSONAL PROTECTIVE EQUIPMENT

GHSC-TA continued to provide ongoing dedicated support to overcome PPE supply and distribution challenges, acting as a link between the NDoH, National Treasury, contracted PPE Suppliers and provinces with the goal of improving PPE availability.

GHSC-TA compiles a weekly presentation, providing an overview of PPE availability, highlighting gaps in supply, and providing information on actions to mitigate items out of stock at the depot and health establishment levels in the provinces for review and discussion with the Project Management Office.

ROLL OUT OF COVID-19 VACCINES

During the quarter, comprehensive support continued to be provided to the NDoH in the implementation of the Covid-19 vaccine rollout in both the public and the private sector.

Vaccination site typology and approval. In the previous quarter, GHSC-TA provided technical assistance to NDoH in the design of the service delivery platform and the description of the different sites where vaccination services can be provided - primary vaccination sites and different types of outreach services (fixed, temporary, and mobile). The team also worked with the NDoH and the South African Pharmacy Council on implementation of the use of section 22A(15) of the Medicines and Related Substances Act 101 of 1965 (the Medicines Act) to enable various organizations to acquire, possess, use, and supply Covid-19 vaccines and the medicines needed to manage any adverse reactions as part of the vaccine roll-out. During this period, the application form for permits, the permit template and the supporting SOP were revised to better accommodate mass vaccination sites operated either by the public or the private sector and to make sure that there is sufficient clinical oversight at all vaccination sites. By the end of the quarter a total of 3251 permits had been issued.

Supply and distribution platform. GHSC-TA spent the quarter building a supply and distribution platform to take the national vaccine allocation provided by the National Vaccine coordination committee and communicate vaccine allocations to both the provinces and private sector. Tools that have been implemented include:

- **Allocation models.** Various iterations of the allocation models were developed as more data became available. The models have considered public and private health establishments providing vaccination services, insured and uninsured population, vaccination capacity and geography (i.e. urban vs rural). The aim of the models is to address potential inequity and ensure that the target population in all areas can be vaccinated.
- **Section 22A15 Permit Dashboard.** GHSC-TA developed this tool to monitor the process steps for issuing of Section 22A(15) permits. This information is also used to ensure no purchase orders are processed unless a vaccination site has the required permit.

- **Purchase Order Control.** This tool takes in purchase order information from delivery sites and collates a purchase order, where they can be rationed and then placed on the NDoH appointed distributors.
- **Private sector purchase order platform.** GHSC-TA engaged the four leading private sector electronic ordering platforms to allow for vaccine orders to be placed using standard private sector ordering mechanisms. Orders received through this mechanism are consolidated within a single repository for vetting purposes and then distributed to the appropriate logistics service provider. This improves auditability, avoids human error and improves efficiencies.
- **Sales and Distribution agreement.** GHSC-TA provide input on this agreement that each entity that procures vaccines will need to sign. The agreement spells out the terms under which the vaccine is supplied.
- **Dashboards.** Various dashboards have been developed to enable the GHSC-TA Supply, Allocation and Distribution team to have greater insight into both the supply pipeline and the demand and supply capacity down to sub-district level. The output of these dashboards assists the team with improving availability of vaccines.

GHSC-TA coordinated the weekly engagements between the vaccine distributors and the National Joint Operational and Intelligence Structure (NATJOINTS) to ensure the safety and security of vaccines on arrival and throughout the supply chain. All new vaccine shipments are escorted from the airport to the distributors, and all outbound shipments to vaccination sites or primary distribution sites are accompanied by South African Police Service vehicles. Furthermore, the South African Air Force has assisted with reaching long-distance destinations in the shortest possible time.

GHSC-TA coordinates the inbound shipments with the distributors and determines the correct volume of vaccines to be supplied to each distributor to serve the customer base. GHSC-TA provides the contract management function of the vaccine distributors on behalf of the NDoH.

Vaccine Ancillary Items. Ancillary items to support the vaccination rollout are in short supply. GHSC-TA provides dedicated support to resolve challenges relating to the supply and distribution of the ancillary items required to administer the vaccines. The program acted as a link between the NDoH, National Treasury, contracted suppliers, and provinces. GHSC-TA works with National Treasury's contracted suppliers to ration orders to ensure equity in supply across both the public and private sectors.

SVS Covid-19 Vaccines Instance. In response to the Covid-19 pandemic and planned vaccine roll-out program, GHSC-TA continued to provide extensive support to the NDoH with the rollout of the SVS Covid-19 instance to monitor vaccines at the provincial level.

COVID-19 Vaccine Toolkit. To support the roll-out and implementation of the Covid-19 vaccine, GHSC-TA has reviewed and finalized standard operating procedures and job aids that support good practice and governance in the handling and management of Covid-19 vaccines at sites. These tools cover everything from the receipt of vaccines, to storage and handling, to the distribution of vaccines to secondary sites whilst maintaining the cold chain and integrity of the vaccine. In addition, the program is supporting efforts by the NDoH to build a central repository of material and supporting tools on the Knowledge Hub to be easily accessible by implementers in both the private and public sectors. To date, GHSC-TA has finalized numerous job aids, a total of 22 SOPs, 16 that have been approved and six that are pending finalization of other related governance documentation.

OUTCOME LEVEL RESULTS

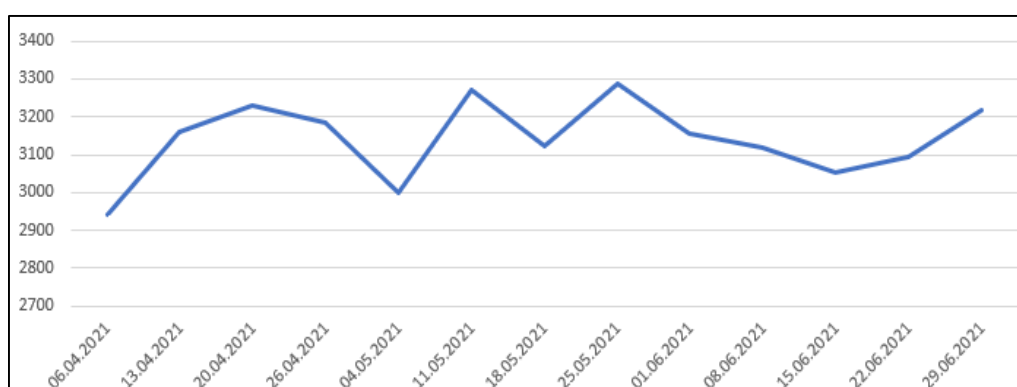
To monitor the performance of the PPE supply chain, GHSC-TA developed PPE-specific indicators, including the percentage availability of PPE at health establishments and the percentage of health establishments complying with PPE reporting requirements.

The first indicator reflects the **availability of PPE** in all health establishments (PHC clinics, CHCs, hospitals, and PPE distribution centers) on a weekly basis. This information assists stakeholders to identify current stock-on-hand quantities and to proactively reduce shortages and stock outs of PPE by looking at stockholding vs. the forecast. This indicator is intended to monitor inventory (PPE) across different levels of the national supply chain and is shown in Figure 21.

By the end of Quarter 3, PPE availability was reported at 85.9 percent, compared to 84.6 percent the previous quarter and against a target of 90 percent. GHSC-TA will continue to work with the provincial PPE coordinators to assist in unblocking procurement and supply obstacles.

The second indicator, **PPE reporting compliance**, is designed to show how many health establishments and distribution centres report PPE data to the NSC. For this reporting period 3,219 submitted data to the NSC, out of 3,709. Reporting compliance was 85 percent, up from 84 percent in the previous quarter. However, performance remained below the target of 90 percent. Reporting compliance still poses a challenge, as shown in Figure 19. Provinces such as Gauteng and the Western Cape are not using SVS as a data capturing tool. Gauteng did not manage to switch their reporting platform to SVS for PPE as indicated in the previous report. GHSC-TA continued to support the NDoH to ensure improved performance against this indicator by working with provincial PPE appointed coordinators and other key stakeholders, assistance that will continue moving forward.

Figure 19: Total Cumulative Number of Sites Reporting PPE



LESSONS LEARNED

Standardized reporting compliance. Reporting compliance was lower than expected for some provinces, for example the Free State. Engagements with the provincial PST and provincial representatives determined that the province reported only on the minimum required basket per the Ideal Clinic requirements. Historically, reporting compliance for medicines at facilities using SVS has been linked to the total basket of items reported via the SVS instance. An intervention by GHSC-TA involved developing a filter to differentiate between total and minimum basket and published to the integrated view reporting compliance report on the NSC to show reporting compliance for provinces that only report on the minimum basket, thereby not penalizing those provinces with lower-than-expected reporting compliance. As a result, the Free State has improved reporting compliance for the clinic level. The lesson learned was that different provinces adopt different strategies in terms of reporting. It is important that there be consensus between AMD and provinces as to what method is used to determine reporting compliance.

Defined communications structures across departments. In January 2021, AMD sent a circular to the HIV Program informing them that national stock levels on TLD and TEE had stabilized and could therefore support an increased transition rate to TLD across all provinces. Additionally, AMD requested that the HIV Program send a memo to provinces informing them to accelerate the rate of transition to TLD and also consider switching second line patients to DTG continuing regimens due to a severe shortage of LPV/R combination used to treat second line patients. The memo took four months to finalize, and provinces and ART suppliers had stock at risk of expiry. Provinces will not proceed with the transition or switch second line patients to DTG containing regimens until official communication is received from the NDoH. This delay creates a risk of DTG stock aging and expiring resulting in stock write offs amounting to millions of dollars (USD). In response, GHSC-TA intervened through a request made to AMD and the HIV Program Director to escalate and resolve the matter. The lesson learned was that there was a need to optimize the internal communication structure and protocols with regard to submissions to the DG. As a corrective measure, GHSC-TA is supporting the review of the current internal protocols.

Data unavailability in demand planning - Data access has been an issue over the last nine months. GHSC-TA engaged with the NDoH to be able to draw standard reports. As a result, the NDoH have established a standard reporting approach that is being rolled out to all provinces. This will enable the province to draw the required data extracts directly in the same format across all provinces. This has been established for Gauteng, Eastern Cape and Free State using the MEDSAS. A reporting extract has also been established for Limpopo. The rest of the provinces will follow. The lesson learned was that there was a need for standard data requirements across all provinces.

10. FINANCIAL STATUS OF THE TASK ORDER

ANNEX I. PROGRESS SUMMARY

Table 6: Key Performance Indicator Progress Summary

INDICATOR	REPORTING YEAR	BASELINE VALUE	YEAR 5 PROPOSED TARGET	YEAR 5, Q3 ACHIEVEMENT	% YEAR 5 ACHIEVEMENT
<i>PROJECT PURPOSE – STRENGTHEN THE CAPACITY OF THE AFFORDABLE MEDICINE DIRECTORATE AND PROVINCIAL PHARMACEUTICAL SERVICES ACROSS THE MEDICINES SUPPLY VALUE CHAIN TO RESULT IN IMPROVED MEDICINE AVAILABILITY</i>					
KPI 1: Percentage availability of medicines at health establishments	FY21	78%	90%	86%	95.5%
Objective 1 – Improve selection and use of medicine					
KPI 2: Number of medicine selection decisions made utilizing health technology assessments	FY21	0	2	0	0
KPI 3: Percentage of assisted Pharmaceutical and Therapeutics Committees with improved operational capacity.	FY21	NA	25%	NA	NA
Objective 2- Support optimization of the supply chain					
KPI 4: Percentage of antiretroviral units delivered by suppliers within contractual lead-time (supplier performance reliability – on time).	FY21	79%	90%	74%	82%
KPI 5: Percentage of Master Health Produce List items on transversal contracts excluding antiretroviral units delivered by suppliers within contractual lead-time (supplier performance reliability – on time).	FY21	75%	85%	75%	88%
KPI 6: Supplier performance reliability – Perfect order fulfilment for orders placed on suppliers (in-full).	FY21	73%	80%	72%	90%
KPI 7: Percentage of master health product list items on transversal contracts delivered via direct delivery to the hospitals designed by the provinces to receive direct delivery.	FY21	NA	70%	NA	NA

KPI 8: Min/Max level reporting – Number of health establishments and warehouses with configured minimum and maximum (min/max) stock levels for stocked medicines being reported to the National Surveillance Centre.	FY21	0	1,500	1,796	120%
KPI 9: Demand forecast accuracy for provinces using the demand forecasting process.	FY21	NA	55%	35.7%	65%
KPI 10: Forecast bias for pharmaceutical forecasts in provinces using the demand forecasting process.	FY21	TBD	<15%	11.4%	76%
KPI 11: Percentage of eligible patients transitioned from Tenofovir/Emtricitabine/Efavirenz to Tenofovir/Lamivudine/Dolutegravir.	FY21	0%	100%	63%	63%
Objective 3 – Strengthen governance					
No KPIs scheduled to be reported quarterly.					
Objective 4 – Improve workforce management					
No KPIs scheduled to be reported quarterly.					
Objective 5 – Strengthen Information Systems and Information Management					
KPI 12: Percentage of users utilizing the National Surveillance Centre to review medicine availability trends and reports.	FY21	NA	80%	60%	75%
KPI 13: Number of health establishments and warehouses utilizing the Medicine Master Data Systems as a source of master data.	FY21	0	3,000	NA	NA
KPI 14: Number of health establishments using core supply chain information systems to order and/or receive stock.	FY21	0	2600	717	28%
KPI 15: Reporting compliance – Percentage of health establishments reporting stock availability to the National Surveillance Centre	FY21	NA	100%	102%	102%
Objective 6 – Improve Financial Management					

KPI 16: Number of provinces who review their budget vs. actual as defined in the new budgeting process to support the ring-fenced budget.	FY21	0	4	9	225%
KPI 17: Percentage of expenditures on non-Essential Medicine List items.	FY21	1.60%	<10%	4.2%	42%

ANNEX 2. SUCCESS STORIES



Strong contracting and contract management processes are crucial for the procurement of medicines and other related items that are essential to enable health care delivery in any country. In South Africa, the contracting process is guided by procedures developed by the country's National Treasury. These procedures offer guidelines pertaining to the bidding process, the evaluation process (including who should participate in this process) as well as contract award.

The United States Agency for International Development (USAID)-funded Global Health Supply Chain Program – Technical Assistance (GHSC-TA) works in collaboration with the National Department of Health (NDoH), Provincial Departments of Health, districts statutory councils, regulatory bodies, and health establishments to strengthen public health systems in South Africa to improve health outcomes. One of the areas where support is provided to the Affordable Medicines Directorate (AMD) of the NDoH is contracting and contract management.

The contracting process involves three key stages namely defining the specifications, advertising the tender, and evaluating the

received bids for recommendation of award. Two governance structures – the Bid Specification Committee (BSC) and the Bid Evaluation Committee (BEC) – are responsible for defining the specifications for the medicines and related items needed and evaluating bids, respectively. Before the Covid-19 pandemic, the BSC and BEC processes took place in a face-to-face meeting held over two days where key stakeholders discussed the specifications and evaluated bids received.

In March 2020, South Africa recorded its first Covid-19 case. The outbreak of the disease came with several changes as the country went into lockdown, presenting multiple challenges for both the contracting and contract management processes. Any delays in procurement of medicines or poor contract management would affect not only the day-to-day operations of health establishments, but also the wellbeing of patients. The challenges that arose because of the pandemic, however, provided an opportunity for contracting and contract management processes to be strengthened. Numerous interventions were undertaken.

Governance: The GHSC-TA supported the NDoH in revising the terms of reference of the

Improved Medicine Availability Team (IMAT) Exploded. The IMAT Exploded is a standing group facilitated by AMD that includes provincial representatives and is a collaborative decision-making forum to identify interventions aimed at addressing medicine supply challenges, to improve medicine availability and reduce the potential impact of stock outs. The adoption of these terms of reference has improved communication and flow of information between the NDoH and provinces in addressing medicine availability challenges. It has further assisted in creating new interventions, such as the centralised allocation of stock, where necessary.

Centralized allocation: GHSC-TA has been working with the NDoH to improve the management of contracted suppliers, by strengthening the Special Requirements and Conditions of Contract (SRCC) for each tender advertised and defining policy principles to support implementation of identified interventions aimed at resolving supplier constraints. One of the interventions identified is centralized allocation of available stock in cases where there are challenges with the availability of a particular item. This process is aimed at equitably allocating supplies obtainable to all participating authorities, to improve medicine availability and reduce the potential of stock outs.

Supplier due diligence: The SRCC makes provision for conducting supplier due diligence assessments at the bidding stage and during the contract. The purpose is to assess whether an item is manufactured at the site specified in the bid documentation; the bidder/contracted supplier has at least two months' buffer stock on hand; and the bidder/contracted supplier has capacity for their allocation or agreed demand. GHSC-TA has initiated a process to define the criteria for conducting these assessments.

Systems and processes: The Covid-19 lockdown coincided with the publication of

regulations for the pandemic in terms of the Disaster Management Act. This announcement coincided with the closure dates for three tenders. Due to the challenges presented by the Covid-19 pandemic, it became clear that the meetings could not happen as planned because of travel restrictions. GHSC-TA worked with the team to use a new electronic platform, which would assist in uploading all the electronic bid folders to one system. All stakeholders can access this information wherever they are located, in the office or at home. A member of the GHSC-TA team trained the team on using the platform, including uploading, and reviewing information. Meetings were also held remotely using on-line platforms. These new processes, had to follow the correct governance processes, maintaining fairness, accountability, transparency, and consistency. It was therefore crucial for the NDoH and GHSC-TA to ensure that the new way of reviewing tender bids was conducted securely, and in accordance with the principles of good governance.

The Result: Already, these changes have had a positive impact. The migration to on-line platforms improved efficiency. Meetings that usually took two days finished in six hours. GHSC-TA supported the NDoH to host 17 BEC and 14 BSC meetings in 2020. By July 2021, the team had used the same approach to conclude 19 tender cycles. Furthermore, the strengthened SRCC assists with the identification and selection of reliable suppliers of medicines for which tenders are published. The ability to adapt to new, challenging circumstances has enabled the NDoH to mitigate delays and help facilitate medicine availability. The continuous strengthening of structures responsible for contracting and contract management and the tools and processes used, has made it possible to, as far as possible manage medicine availability challenges, with limited shortages reported during this period.





Lou Gerstner once said; “The Internet is ultimately about innovation and integration, but you don’t get the innovation unless you integrate web technology into the processes by which you run your business.” This quote best sums up the challenges that existed in the Fezile Dabi District in the Free State province in South Africa.

The Challenge: In health care, electronic medicine management systems often exist in isolation of one another. Data and functionality are duplicated due to the need to share data between systems that are not integrated. Managing processes (including reporting) within the medicine supply chain is often difficult, as the various systems rely on different naming conventions to refer to the same elements. This challenge relates particularly to formularies - the list of medicines that may be procured, stocked, and used in a province, district or a particular health establishment (hospital, community health center or clinic). Often updated formulary information is not available to key stakeholders including prescribers, pharmacy, supply chain and financial personnel and managers at all levels. If formularies are in place, they are often found in

print form or managed on spreadsheets and circulated via email.

Why formularies: Formularies are important because they are “a continually updated list of medicines and related information, used in the diagnosis, prophylaxis, or treatment of disease and promotion of health, to satisfy the needs of the majority of the population served by a particular health establishment/s”¹

Properly managed formularies help to:

- Identify medicines that can be used to treat or prevent disease;
- Guide management of medicines at all levels of care in accordance with the principles of good governance;
- Inform transparent decision-making in the development and management of medicine-related budgets at all levels of care; and
- Promote rational medicine use throughout the health care system.

The Solution: To enhance the development and management of formularies in an evidence-based and transparent manner, the United States

¹ National Department of Health, 2021. National Guideline for the Development and Management of Formularies, Pretoria, South Africa.

Agency for International Development (USAID)-funded Global Health Supply Chain Program – Technical Assistance (GHSC-TA) has been working with the Affordable Medicines Directorate (AMD) of the South African National Department of Health (NDoH) to develop tools that can help Pharmaceutical and Therapeutics Committees (PTCs) to manage formularies better. These committees are established at provincial, district and health establishment level to promote the rational use of medicine and governance of an effective medicines management system, including formulary management. Their goal is to enable equitable and reliable access to medicines and quality care while making the best use of available resources.

GHSC-TA is working with AMD to develop a Medicine Master Data System (MMDS) which is designed as a repository for uniform master data relating to the medicines used in public sector health establishments. The Formulary Tool is a key component of the MMDS which enables the development, management and use of formularies for provinces, districts, and health establishments. It was developed based on the principles defined in three key policy documents – the AMD Medicine Master Data Policy, the National Guideline for Development and Use of Formularies and the National PTC Guideline. GHSC-TA provided technical assistance in the development of all these documents.

To pilot implementation of the Formulary Tool, GHSC-TA worked together with the Free State provincial PTC to test the system. From October 2020 to May 2021, GHSC-TA worked with the PTC-designated formulary manager of the Fezile Dabi District to analyze, prepare, and upload 46 formularies onto the MMDS. Before, the province was managing formularies on Excel files circulated via email. To load formularies onto the system, the existing version of the formulary was analyzed and standardized, with additional data added as needed to populate the

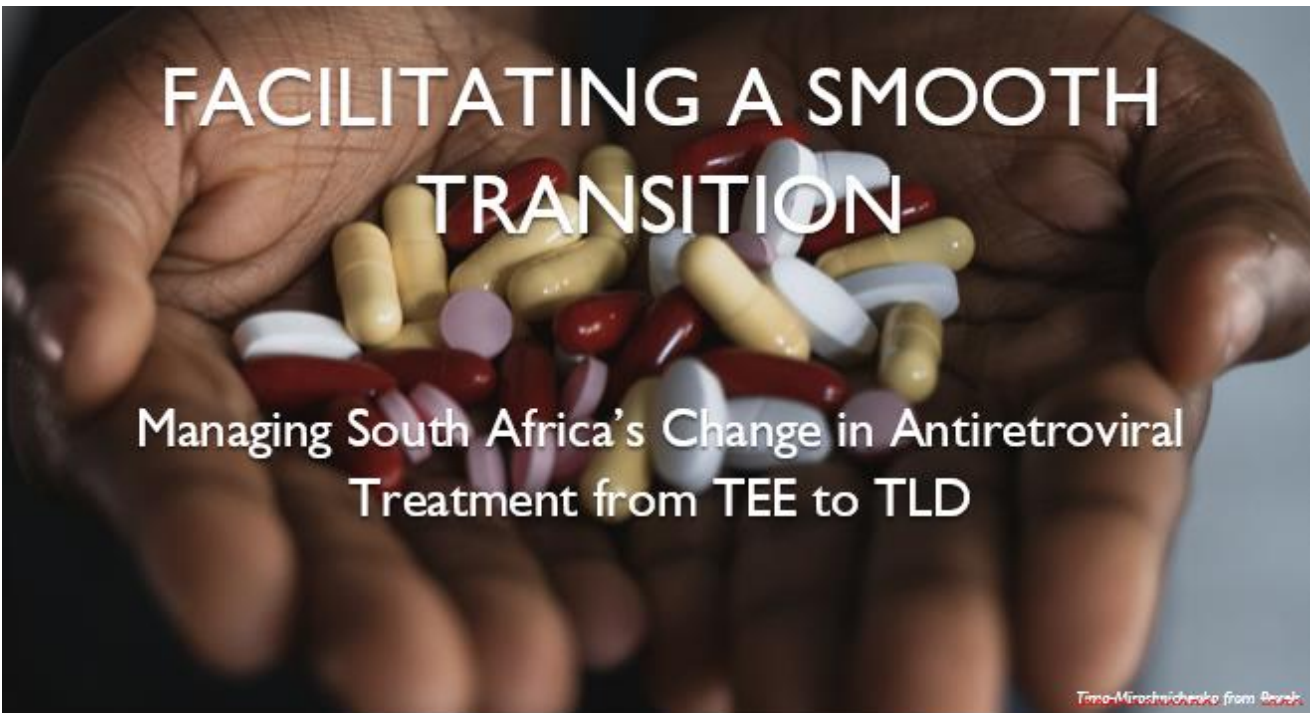
Formulary Tool. Medicines were linked with the relevant health establishment (location), and each formulary approved. This work included formularies for 36 primary health care clinics, five community health centers, four district hospitals, and one regional hospital. With implementation of the Formulary Tool, stakeholders may now access real-time updated formulary information.

The Result: Transparency and efficiency have been improved by enabling one master data source of formularies in the district. Formularies uploaded on the MMDS have enabled integration and better management of processes and reporting along the medicine value chain. In particular, formularies now available on the MMDS will be used to inform the following processes:

- Replenishment planning and stock reporting using the Stock Visibility System;
- Demand and supply planning;
- Analysis of stock levels through the National Surveillance Center; and
- Formulary content analysis, medicine use evaluation, and governance.

The experience gained from implementation of the Formulary Tool in the Fezile Dabi District will go a long way in informing future efforts across the country. It has been a yardstick to show what happens when integrated systems and tools are developed to manage medicine supply systems. Using the lessons learned concerning the methodology, approach and relationships developed during the implementation in the Fezile Dabi District, GHSC-TA will continue to work with other districts and provinces to implement the Formulary Tool across the country.





FACILITATING A SMOOTH TRANSITION

Managing South Africa's Change in Antiretroviral Treatment from TEE to TLD

Timo-Miroshchuk from Beeth

As medicine technologies evolve, researchers develop better treatment options for a variety of diseases. Optimization of antiretroviral treatment (ART) regimens enable people living with HIV to receive the best medicines available in the most cost-effective way. With new medicines comes the need to switch patients from their current therapy to different treatment options.

In 2019, South Africa began its journey to transition 80 percent of its over 4.8 million patients on ART from the first line treatment—tenofovir/emtricitabine/efavirenz (TEE)—to the new fixed dose combination of tenofovir, lamivudine, dolutegravir (TLD). The remaining 20 percent of patients would remain on TEE or second line treatment regimens. (AZT + 3TC + LPV/r or ATV/r).

The transition to TLD has received global appreciation as the medicine combination provides many health benefits, including, improved tolerability, higher antiretroviral efficacy, lower rates of treatment discontinuation, a higher genetic barrier to resistance, and fewer drug interactions than other antiretroviral (ARV) medicines. Based on experience with the introduction of other ARVs, transition to TLD brings potential risks, such as global demand outpacing manufacturing capacity, and stockouts or overstocking of TLD, TEE, and other ARV regimens at all levels of the supply chain. Due to the number of patients in the country who would be eligible to move to TLD, this exercise required detailed planning and

coordination from various internal and external stakeholders.

A cornerstone of ART adherence is daily dosing, so it was important to avoid stock-outs. At the beginning of the TLD national roll out, South Africa recorded its first case of Covid-19. The pandemic affected health care systems globally. The outbreak in South Africa impacted service provision, with patients reducing medical visits to minimize exposure to the virus. To address this, the government adopted numerous strategies to reduce clinical visits and promote adherence and retention in care, including multi-month dispensing and delivery of patients' medicines to convenient pick-up points. A further complication was, that because of the pandemic, the health supply chain experienced challenges such as shortages of ARVs caused by challenges in production and importation.

The South African National Department of Health (NDoH) set up a team to liaise with provinces and suppliers to manage the phase-in of TLD and the resultant reduction in usage of TEE. The team included the United States Agency for International Development (USAID)-funded Global Health Supply Chain Program -Technical Assistance (GHSC-TA), the Africa Resource Centre and other implementing partners. The team from the Affordable Medicines Directorate (AMD) worked with the HIV Program, who were responsible for clinical and communication

streams as this required coordination of numerous stakeholders.

A lot of success has been registered to date. By the end of June 2021, 63 percent of the targeted 80 percent of patients had transitioned from TEE to TLD. This transition took place despite challenges experienced in the country because of two waves of Covid-19 infections. This success was achieved through the implementation of numerous interventions.

Governance: Multidisciplinary committees were established at national and provincial level with representation from programs, pharmaceutical services, training, and communications. These governance structures enabled alignment and coordination of efforts, appropriate decision-making, effective resource utilisation, tracking of progress, implementation of corrective actions and ultimately accountability.

Communication: Clear communication plans were also developed. Communication materials were prepared and distributed as flyers, published in newspapers, and broadcast on television, and via social media to facilitate effective engagement with stakeholders and beneficiaries.

ART Clinical guideline: GHSC-TA worked with the Essential Drugs Program (EDP) and the HIV Program to develop the Standard Treatment Guidelines, which provide guidance to health care providers on the use of medicines and the management of patients.

Training: A comprehensive training plan was developed with materials for all key personnel working with the targeted patient cohorts. This approach helped to give health care providers knowledge regarding the use of TLD, promote confidence in the use of the medicine, and enable them to determine patient eligibility and provide advice to patients.

Demand and Supply Planning: The transition required careful demand and supply planning and constant monitoring of ARV availability to avoid stock shortages and wastage. The team developed a high-level supply and demand model, assisting with the

provincial roll-out of the transition. This model is driven by various assumptions (both national and provincial) and is a key input to managing the transition to ensure that the medicines needed are available.

Monitoring and Evaluation: GHSC-TA developed key performance indicators (KPIs) to support measurement of the NDoH's strategic objectives and the performance of the medicine supply chain. The national TLD task team approved the KPIs and GHSC-TA began developing the TLD Dashboard on the National Surveillance Center (NSC). This dashboard assists in tracking the distribution of medicine, and enables health care and supply chain personnel to review, act, and report on information visualized. Users are also able to track the transition against targets set by the NDoH.

GHSC-TA trained and coached users to analyze and interpret the dashboard data and formal decision-making processes were developed. The TLD dashboard also serves as an early warning tool to prevent stockouts and tracks availability of TB medicines and contraceptives, which are crucial in ART treatment regimes in South Africa.

The success that has been achieved is commendable. [Through establishing governance structures, clinical guidelines and demand and supply plans the team ensured that there were effective systems in place to facilitate a successful transition. There were also efficient training, monitoring, and engagement systems in place to support coordination across teams. The transition journey is far from over. Several actions are still needed to ensure that South Africa reaches 70% TLD transition by November 2021. There are gaps that need to be addressed through agreeing on a tracking mechanism to report reliably on patient numbers. Provincial targets must also be set to achieve the desired 80:20 TLD: TEE split by March 2022

Despite the usual challenges imposed by the transition of a large cohort of patients to a new treatment regimen, the transition was complicated by the outbreak of Covid-19. By working closely with key national and provincial stakeholders, GHSC-TA was able to assist the NDoH in the successful transition of a patients to TLD.

